DOCUMENT RESUME

ED 042 723 24 SP 004 172

AUTHOR	Weber, Wilford A.
TITLE	A Study of the Feasibility of the Refined Syracuse University Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary Teachers. Final Report.
INSTITUTION	Syracuse Univ., N.Y. School of Education.
SPONS AGENCY	Department of Health, Education, and Welfare, Washington, D.C. National Center for Educational Research and Development.
BUREAU NO	BR-9-0422
PUB DATE	Dec 69
CONTRACT	OEC-0-9-420422-4041(010)
NOTE	365p.; Phase 2, Feasibility Studies, CETEM
AVAILABLE FROM	Supt. of Docs., Government Printing Office, Washington, D.C. 20402 (HE5.87: SY8; $3.00)
EDRS PRICE	EDRS Price MF-$1.50 HC-$18.35
DESCRIPTORS	Educational Equipment, Educational Facilities, *Educational Specifications, *Elementary School Teachers, Estimated Costs, Facility Requirements, *Feasibility Studies, Interinstitutional Cooperation, *Models, Preservice Education, Program Costs, Simulation, *Teacher Education
IDENTIFIERS	CETEM, *Comprehensive Elementary Teacher Education Models

ABSTRACT

This study examined the financial human, material, and organizational feasibility of developing and operating the Syracuse Model Elementary Teacher Education Program. (Phase I report is ED 026 301 and ED 026 302.) The study was conducted by the Syracuse University Protocooperative, an organization composed of four public schools, two Title III centers, a regional educational laboratory, a group of educational futurists, an educational industry, and the University. A major emphasis is on the detailing of costs associated with implementation of the program. Additional outputs from the study include a refinement of the model, descriptions of strategies dealing with various aspects of program implementation, detailed specifications regarding the personnel, material, and facility requirements of the program, some generalizations concerning exportability of the model, and a simulation package (described, but not included in this report) which allows potential adopters to face the problems of implementation. Major conclusions are: 1) The refined Model seems acceptable to the Protocooperative members and to the majority of teacher educators sampled. 2) Specifications of the program do not call for personnel, facilities, or materials which are unobtainable. 3) Program costs would be reasonable. 4) The Model Program is, in every sense, feasible. (Author/RT)

ED0 42723

Final Report
Project No. 9-0422
Contract No. OEC-0-9-420422-4041(010)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

A STUDY OF THE FEASIBILITY OF THE REFINED SYRACUSE UNIVERSITY SPECIFICATIONS FOR A COMPREHENSIVE UNDERGRADUATE AND INSERVICE TEACHER EDUCATION PROGRAM FOR ELEMENTARY TEACHERS

Syracuse University Protocooperative
Wilford A. Weber, Project Director
School of Education
Syracuse University
Syracuse, New York 13210

December 31, 1969

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
National Center for Educational Research and Development

SP004172

PREFACE

The involvement of the Syracuse University Protocooperative in this second phase of the Model Elementary Teacher Education Project was dependent upon a potentially dangerous unknown. Never before have public schools, educational industry, governmental educational agencies and a university attempted cooperation on so complete and massive a scale. Acceptance, respect, trust and warmth had to supplant suspicion, jealousy, and--in some cases--hostility if the program was to be an honest cooperative effort. Basic to these feelings was the realization that the initial Model Program had been a product of university thinking. Perhaps the most indicative fact that underscores the kinds of understandings reached among Protocooperative members was our decision to call ourselves the Syracuse University Protocooperative.

The production of this document is mute evidence to the fact that the notion of protocooperation is viable. The strength and diversity of this interrelationship is revealed in the membership of each of the task forces and the belief inherent in each contributor: Our entire purpose for working together is to improve the education of every child taught by our graduates. This basic belief motivated us when all other reasons seemed to fade as the going got rough--as it often did.

What follows is a working document--the report of the study the process and products of which are relatively simple. The procedures used to study the feasibility of the Syracuse Model could be performed by any group of concerned teacher educators anywhere who wish to look at the task of implementing a program of teacher education. The seeming complexity of the report is a function of the Model Program and not the process used to study that program. A number of very costly, technologically based methods might have been employed in the study but were not because they would have had very limited generalizability. We are not claiming that this represents the best methods of testing the feasibility of a teacher education program, but we do claim that application of our procedure is possible within a wide variety of teacher education institutions, large and small. Our choice of procedure was in large part a reflection of our thinking which strongly denies the notion that the Model Elementary Teacher Education Project was meant to benefit only major universities with a wealth of resources.

Indeed, the Model Program reflects this bias. We believe teacher education needs to change, and that change must be as widespread as possible.

The work of the Protocooperative must not end with this report. While we have designed a teacher education program model, of which we are proud, and have conducted a feasibility study we hope is useful, our work--in a very real sense--is meaningful only when the growth of children is influenced by graduates of the program who bring new attitudes and skills into the classroom. The process of implementing the program will be difficult. In spite of this, the Protocooperative is committed to moving ahead. Perhaps the words of Samuel Johnson, written two centuries ago, best reflect our thoughts:

> Nothing will ever be attempted if all possible objections must first be overcome.

Wilford A. Weber
Project Director

Syracuse University
Syracuse, New York
December, 1969

ACKNOWLEDGMENTS

Writing acknowledgments of those persons who contributed of their time and effort to the tasks of the feasibility study is perhaps the hardest task. There is a desire to mention each and every one of the many who made his unique contribution--large or small--to the contents of this report. The fear, however, of neglecting to mention just one almost keeps this task from being accomplished.

This document is the product of a rather unique cooperative effort involving personnel from ten organizations:

Syracuse University
Canastota Central Schools
Jamesville-Dewitt Central Schools
Niskayuna Central School District
Syracuse City School District
Eastern Regional Institute for Education
Educational and Cultural Center Serving Onondaga and Oswego Counties
Finger Lakes Region Office of Educational Planning
Educational Policy Research Center
System Development Corporation

This protocooperative mix ranged from undergraduate teacher education students and beginning teachers to the dean and school superintendents and included educational lab and Title III people, "industry types," and educational futurists. We are most thankful that each gave us his best.

Special thanks are due to the Syracuse University Protocooperative Executive Board who, in reality, set the direction for the feasibility study. The advice of the Board to the Project Director was invaluable:

Burton G. Andreas (Eastern Regional Institute for Education)
Frank A. Bishop (Jamesville-Dewitt Central Schools)
William P. Kent (System Development Corporation)
Stuart S. Naidich (Finger Lakes Region Office of Educational Planning)
Joseph A. Oakey (Niskayuna Central School District)
Donald F. Rielle (Canastota Central Schools)
Hanford A. Salmon (Syracuse City School District)

Every successful project has a staff who devotes time above and beyond the call of duty handling the daily chores that characterize an effort of the magnitude of this study. The project assistants were the cadre whose humor and sweat kept us going over numerous hurdles. All were involved in the various aspects of the study but also made special contributions to specific tasks; each has received a gold star:

Charles Rathbone: Model refinement, specifications, simulation, scenario, and final report preparation.

Patricia L. Kranz: Model refinement, specifications, and final report preparation.

Laurence D. Martel: Model refinement, implementation strategies, specifications, and final report preparation.

Alexina Tyo: Exportability and preparation of the final report.

In addition to good graduate assistants, every project needs a secretary who can turn out perfectly typed copy while answering two phones and scheduling three appointments. To find one such gal is difficult. To find two--back to back--is amazing. Susan Stofkoper was our secretary at the beginning. When she had to leave us midway through the project, she was replaced by Jane Gaskell. Janie quickly learned who we were, what we were about, and what we needed--yesterday. She has been a whirlwind of productivity. These were not easy things to do, but she did them easily--with a smile. Janie is our "supersecretary."

Several persons helped us during the life of the project who should be mentioned here. Cindy Burke assisted in the preparation of the final report, Robin Kranz aided in the printing of the final report, Roderick Gaskell and Ron Bouverat provided graphic assistance, and L. William Patchen helped cut administrative red tape and smoothed the path.

Finally, sincere thanks are extended to the administrations of all of the Protocooperative organizations. Special thanks are expressed to the administration of the University and of the School of Education who were most facilitating and supportive.

W.A.W.

ABSTRACT

This study examined the financial, human, material, and organizational feasibility of developing and operating the Syracuse Model Elementary Teacher Education Program, a refined version of the program described in the Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary Teachers (the Phase I final report developed at Syracuse University under contract with the Office of Education).

The products of the study include critical information needed by the Syracuse University Protocooperative (an organization composed of four public schools, two Title III centers, a regional educational laboratory, a group of educational futurists, an educational industry, and the University) and by other teacher education institutions to realistically consider the feasibility of and alternative strategies for developing and operating the teacher education program for elementary school teachers as prescribed by the Syracuse Model.

A major emphasis is on the detailing of costs associated with implementation of the program as financial considerations are quite important. Additional outputs from the study include a refinement of the Model, descriptions of strategies dealing with various aspects of program implementation, detailed specifications regarding the personnel, material, and facility requirements of the program, some generalizations concerning exportability of the Model, a simulation which allows potential adopters and adapters to face the problems of implementation, and a scenario which gives one a touch of reality regarding implementation.

Major conclusions with regard to several of the more important aspects of the study are as follows:

1. The refined Model seems reasonable, acceptable, and attractive to the members of the Protocooperative and to the vast majority of teacher educators sampled; the Model's capacity for self-corrections and its openness to change are among its most attractive features.

2. Successful implementation of the Model Program will require careful attention to organizational and managerial detail, program planning, and staff development.

3. Specifications of the program requirements do not call for personnel, facilities, or materials which are unavailable or unobtainable; in this sense, therefore, the program is feasible.

4. While at first glance the program costs might seem to be quite high, examination of operational costs as separate from developmental costs seems to indicate that program costs would be reasonable.

5. Great thought must go into considerations of collaborative arrangements among teacher education institutions and among teacher education consortia so as to effect savings and expand benefits where possible; sharing the costs of the production of basic instructional materials and the utilization of computer facilities and services, for example, would spread costs--and resources--over a larger base.

6. We believe the Model Program to be--in every sense--feasible; we take the position that the program requires only time, resources, and resolve--and the greatest of these may be resolve--to make the program operational. Further, we believe that graduates of the program will be better equipped to facilitate the growth of the elementary school children they will teach.

CONTENTS

PREFACE iii

ACKNOWLEDGMENTS v

ABSTRACT vii

CONTENTS ix

LIST OF TABLES xi

LIST OF FIGURES xvii

CHAPTER I. OVERVIEW OF THE FEASIBILITY STUDY 1
  Introduction 1
  Feasibility as Defined in This Study 2
  An Overview of the Feasibility Study 3

CHAPTER II. REFINEMENTS OF THE MODEL 7
  The Model Refinement Task Force 7
  The Model Refinement Task 8
  Modifications to the Basic Underlying Assumptions of the Syracuse Model 10
  Additions to Program Components and Program Support System Descriptions 15
  Modifications to Program Components and Program Support System Descriptions 24
  Suggested Modifications to Be Studied by Empirical Testing During Development and Implementation Phase 25
  Refinement Summarized 25

CHAPTER III. IMPLEMENTATION STRATEGIES 27
  The Implementation Strategies Task Force 27
  The Implementation Strategies Task 27
  Organizational Structure 29
  Management Structure 31
  Implementation Schedule 37
  Staff Recruitment and Development 40
  Student Recruitment 42
  Curriculum, Facilities, and Materials 43
  Summary 45

CHAPTER IV. SPECIFICATIONS OF THE MODEL 47
The Specifications Task Force 47
The Specifications Task 47
Specification Categories 49
Module Specifications 54
Simulated Individual Student Program 228
Resource Allocation Decisions 236

CHAPTER V. COST ANALYSIS 237
The Cost Analysis Task Force 237
The Cost Analysis Tasks 237
Materials 240
Facilities 242
Personnel 263
Information Handling System 269
Program Costs 272

CHAPTER VI. EXPORTABILITY OF THE MODEL 275
The Exportability Task Force 275
The Exportability Task 275
Dissemination 276
Assessment 277
Results of the Exportability Assessment 279
Exportability Summarized 287

CHAPTER VII. THE METEP SIMULATION 289
The Simulation Task Force 289
History 289
Introduction 290
The Development of the Concept 290
Description of the METEP Simulation 294
The Product 295
Process by Which Other Communities Can Examine the Syracuse Model 295

CHAPTER VIII. FINAL SPECIFICATIONS 299
The Final Specifications Task Force 299
The Final Specifications Task 299

CHAPTER IX. SCENARIO 301
Letter from John Petrillo to William Klaus 303
Letter from William Klaus to John Petrillo 305

CHAPTER X. SUMMARY 313
The Process and the Products 313
Some Conclusions 314
Recommendations 316
Postscript 320

APPENDIXES 321

LIST OF TABLES

TABLE PAGE

1. Specifications for Module CM-1.1 56
2. Specifications for Module CM-1.2 58
3. Specifications for Module CM-1.3 60
4. Specifications for Module CM-1.4 62
5. Specifications for Module CM-1.5 64
6. Specifications for Module CM-1.6 66
7. Specifications for Module CM-2 68
8. Specifications for Module CM-3 70
9. Specifications for Module CM-4 72
10. Specifications for Module CM-5 74
11. Specifications for Module CM-6 76
12. Specifications for Module CM-7 78
13. Specifications for Module CM-8 80
14. Specifications for Module CM-9 82
15. Specifications for Module CM-10 84
16. Specifications for Module CM-11 86
17. Specifications for Module CM-12 88
18. Specifications for Module CM-13 90
19. Specifications for Module CM-14 92
20. Specifications for Module CM-15 94
21. Specifications for Module CM-16 96

TABLE PAGE

22. Specifications for Module CM-17 98
23. Specifications for Module CM-18 100
24. Specifications for Module CM-19 102
25. Specifications for Module CM-20 104
26. Specifications for Module CM-21 106
27. Specifications for Module CD-1 108
28. Specifications for Module CD-2 110
29. Specifications for Module CD-3 112
30. Specifications for Module CD-4 114
31. Specifications for Module CD-5 116
32. Specifications for Module CD-6 118
33. Specifications for Module CD-7 120
34. Specifications for Module CD-8 122
35. Specifications for Module CD-9 124
36. Specifications for Module CD-10 126
37. Specifications for Module CD-11 128
38. Specifications for Module CD-12 130
39. Specifications for Module CD-13 132
40. Specifications for Module TTP-1 134
41. Specifications for Module TTP-2 136
42. Specifications for Module TTP-3 138
43. Specifications for Module TTP-4 140
44. Specifications for Module TTP-5 142
45. Specifications for Module TTP-6 144
46. Specifications for Module TTP-7 146

TABLE PAGE

47. Specifications for Module TTP-8 148
48. Specifications for Module TTP-9 150
49. Specifications for Module TTP-10 152
50. Specifications for Module TTP-11 154
51. Specifications for Module TTP-12 156
52. Specifications for Module TTP-13 158
53. Specifications for Module TTP-14 160
54. Specifications for Module TTP-15 162
55. Specifications for Module TTP-16 164
56. Specifications for Module PST-1 166
57. Specifications for Module PST-2 168
58. Specifications for Module PST-3 172
59. Specifications for Module PST-4 174
60. Specifications for Module PST-5 176
61. Specifications for Module PST-6 178
62. Specifications for Module PST-7 180
63. Specifications for Module SCF-1 182
64. Specifications for Module SCF-2 184
65. Specifications for Module SCF-3 186
66. Specifications for Module SCF-4 188
67. Specifications for Module SCF-5 190
68. Specifications for Module SCF-6 192
69. Specifications for Module SCF-7 196
70. Specifications for Module SCF-8 198
71. Specifications for Module SCF-9 200

TABLE PAGE

72. Specifications for Module SCF-10 202

73. Specifications for Module SCF-11 206

74. Specifications for Module SCF-12 208

75. Specifications for Module SCF-13 210

76. Specifications for Module SCF-14 212

77. Specifications for Module SCF-15 214

78. Specifications for Module SCF-16 216

79. Specifications for Module SCF-17 218

80. Specifications for Module SCF-18 220

81. Specifications for Module SCF-19 222

82. Specifications for Module SCF-20 224

83. Specifications for Module SCF-21 226

84. Example of Weekly Format Sheet: Junior Year, Week 15, Format 6 230

85. Example of Weekly Format Sheet: Senior Year, Week 10, Format 3 231

86. Example of Individual Student Program: Junior Year, Format 8 232

87. Example of Individual Student Program: Junior Year, Format 11 233

88. Example of Individual Student Program: Senior Year, Format 7 234

89. Example of Individual Student Program: Senior Year, Format 16 235

90. Estimated Costs for Materials 240

91. Breakdown of Estimated Costs for Materials 241

92. Estimated Costs for Learning Space Facilities 243

93. Estimated Costs for Support Facilities 244

TABLE PAGE

94. Breakdown of Cost Estimates for Lecture Room 245

95. Breakdown of Cost Estimates for Seminar Room A 246

96. Breakdown of Cost Estimates for Seminar Room B 247

97. Breakdown of Cost Estimates for Small Group Room A 248

98. Breakdown of Cost Estimates for Small Group Room B 249

99. Breakdown of Cost Estimates for Study Carrel A 250

100. Breakdown of Cost Estimates for Study Carrel B 251

101. Breakdown of Cost Estimates for Study Carrel C 251

102. Breakdown of Cost Estimates for Testing Station A 252

103. Breakdown of Cost Estimates for Testing Station B 253

104. Breakdown of Cost Estimates for Testing Station C 253

105. Breakdown of Cost Estimates for Library 254

106. Breakdown of Cost Estimates for Resource Center 255

107. Breakdown of Cost Estimates for Offices 256

108. Breakdown of Cost Estimates for Supplies for Resource Center 257

109. Breakdown of Cost Estimates for Equipment for Resource Center 259

110. Breakdown of Cost Estimates for Field Center Equipment 262

111. Estimated Costs of Campus Instructional Personnel 264

TABLE PAGE

112. Estimated Costs of Field Instructional Personnel 265

113. Estimated Costs of Instructional Support System Personnel 266

114. Estimated Costs of Program Support Personnel 267

115. Estimated Cost of Computer Time Per Semester When Program Is Operational 271

116. Estimated Costs of Program 273

117. Invitations, Designations, and Acceptances to Invitation 280

118. Persons Who Attended the Invitational Conference 281

119. Requests for Further Information 283

120. Attitudes Regarding Aspects of the Model 285

121. Follow-Up Activities by Respondents 286

LIST OF FIGURES

FIGURE PAGE

1. Recommended Management Structure 32

2. Recommended Implementation Schedule 38

3. Example of a Module Specification Card Used in Simulation of Student Progress Through the Program 229

CHAPTER I

OVERVIEW OF THE FEASIBILITY STUDY

Introduction

A model for a comprehensive elementary teacher education program was developed by Syracuse University in 1968 under contract with the Bureau of Research of the United States Office of Education.[1] The Model--a 550-page blueprint for teacher education--has become known as the Syracuse Model Elementary Teacher Education Program, and the period during which the Model was developed is referred to as Phase I of the Teacher Education Project of the Office of Education. That Model incorporates a number of major features which would seem to offer promise for more effective, more relevant elementary teacher education and, consequently, a better elementary education for children. The Model is far too complex and lengthy to detail in this report, and the serious reader should examine the Model as it is described in the Phase I final report.[2] However, a few of the major features are noted below:

1. Protocooperation among a variety of different segments of the educational sector including the university, public schools, governmental educational agencies such as regional laboratories and Title III centers, and the educational industries so that maximum resources may be brought to bear in teacher education.

2. A coordinated school and campus program that draws relevance and instructional strength from the real world of elementary education, the talents of experienced school personnel, and the resources of the university.

---

[1] Syracuse University. Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary School Teachers. United States Office of Education. Contract No. OEC-0-8-0918-3313(010), October 31, 1968.

[2] Copies are available from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402 (Order No. FS 5.258:58016).

3. A program to accommodate the individual strengths, learning styles, and values of students through a self-paced program of components that are adaptable to the unique individual and personality characteristics of the students.

4. Construction of the program around a large number of flexible, functional instructional modules that incorporate pre- and post-assessment measures, a variety of instructional experiences, and remedial experiences for each module as needed.

5. An information management system designed to monitor program effectiveness, measure student progress, and provide the data necessary for continued updating of the program as it functions in a complex campus and field-based setting that must respond to rapidly changing educational demands.

This document reports an intensive study which examined the feasibility of the Model; this was Phase II of the Teacher Education Project. The first chapter of the report describes the notion of feasibility as applied during the study. In addition, this chapter presents a brief overview of the process and products of the study.

Feasibility as Defined in This Study

In the study reported here, the feasibility of the Syracuse University Model Elementary Teacher Education Program was analyzed in four different ways. The concept of feasibility was addressed in terms of financial, human, material, and organizational dimensions.

Financial Feasibility. In assessing the financial feasibility of implementing the Syracuse Model, the essential questions asked were: (1) what is the estimated cost of developing such a program; (2) what is the estimated cost of the program during its initial and continued operation; (3) what is the estimated cost of putting a student through the program; and (4) what are the financial priorities involved in such a program?

Human Feasibility. The second type of feasibility studied was that of human feasibility. This involved the examination of such factors as the availability of persons who possess the skills, knowledge, and dispositions necessary for functioning in the instructional, support, and administrative roles called for by the Model. Of central concern was an examination of individuals' readiness to both accept and contribute to the changes implied by the Model. For development and operation to be successful, large numbers of people from a variety of institutions must be willing to commit time and effort from their professional activities. Finally, an examination was made of the students who will be the trainees in the program. Acceptance by students of sweeping innovations in teacher education, their ability to profit from such experiences, and their willingness to devote five years to such an educational venture are crucial human feasibility issues dealt with in this study.

Material Feasibility. The third type of feasibility studied was that of material feasibility. The study of material feasibility involved an examination of such factors as the availability of the instructional materials--both hardware and software, the instructional technology necessary to support the program, and the facilities necessary to house the program. Material feasibility could not be completely separated from considerations of financial and human feasibility Yet questions relating to material feasibility were in some cases substantially different; therefore, it was important to single them out as a separate issue. For example, various types of hardware and software necessary for the simulation of classroom conditions could be hypothetically described, but whether these hardware and software components would be available at the appropriate time demanded by the implementation strategy required careful scrutiny. That type of issue caused material feasibility to be more concerned with the availability of necessary instructional and program support elements than with the cost of those elements, although cost considerations did play a role in the selection from alternatives.

Organizational Feasibility. The fourth type of feasibility studied was organizational feasibility. This dealt with the ability of institutional coalitions composed of public schools, a university, educational industry, and governmental educational agencies--a protocooperative--to undertake changes in organizational structure and function so as to facilitate a program such as the one proposed by the Syracuse Model. A realistic study of the ability of such organizations to change was made, and the steps necessary to bring about such changes are described. Organizational feasibility studied the readiness of protocooperative organizations to assimilate such a program into their present structures or to change those structures so as to facilitate that assimilation. This study suggests what are believed to be realistic, workable plans for assessing the readiness for and actual implementation of the Syracuse Model, not only by the Syracuse University Protocooperative, but in other settings as well. Indeed, the conduct of this study was an effort which tested the flexibility, the adaptiveness, and the priorities of a protocooperative engaged in a common task. The products of the study serve as evidence which supports the notion that the protocooperative is a viable organizational structure for educating teachers.

An Overview of the Feasibility Study

The operational plan of the feasibility study reported here centers around eight major successive tasks which were undertaken by the Syracuse University Protocooperative. These tasks are briefly described in this section of the report; further elaboration concerning each of the tasks is presented in subsequent chapters. This information regarding the procedures of the study may be helpful to those contemplating adoption or adaption of the Syracuse Model.

Refinement of Model. The Syracuse Model provides for protocooperation among public schools, the university, educational industry, regional laboratories, and governmental educational agencies. In keeping with this prescription, nine such institutions joined with Syracuse University as collaborators on Phase II. Since the Phase I Model was essentially a product of the University, a first step in testing feasibility was to have representatives from each of the Protocooperative institutions review all aspects of the Model so as to assess their proposed involvement given the resources and constraints of their own unique institutional situations. With this review as a basis, representatives revised the Model by drawing on: (1) their own concepts about teacher education tempered with an understanding of their own institutional priorities, (2) the suggestions which came from the critical review conducted earlier by qualified consultants,[3] (3) ideas from the other Phase I models which were highly compatible with, though not fully explicated in, the Syracuse Model, and (4) societal projections relevant to elementary education and the education of teachers in the last quarter of the twentieth century.

Refinement of the Model involved a great many decisions on the part of members of the Protocooperative which will ultimately implement the program. While the revisions made preserve the primary aspects of the original Syracuse Model, a number of judicious refinements were made. These are described in Chapter II of this report. The reader should note that the feasibility study, therefore, was concerned with that refinement of the Model.

Development of Alternative Implementation Strategies. Guided by the refined Model, personnel from the Protocooperative used a "system approach" to design several alternative long-range strategies for the development and operation of the program. The strategies were subjected to careful scrutiny by a variety of specialists. A master strategy for the development and implementation of the Model by the Syracuse University Protocooperative was selected from among the alternative strategies. The selected strategy (modified somewhat on the basis of subsequent cost data) and the residual strategies are described in Chapter III of this report. It is hoped that potential adopters of the Model would find one of the proposed strategies of use in their own planning.

---

[3] Syracuse University. Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary School Teachers: Evaluation of Final Report. United States Office of Education, Contract No. OEC-0-8-0918-3313(010), December 31, 1968.

Specifications of Program Requirements. Giving due consideration to the resources of the Protocooperative as well as organizational and situational constraints, the specific implementation and operational requirements for developing and operating the program according to the master strategy were developed. During this stage of the feasibility study, student time was considered to be the critical resource. The task of specifying the personnel, materials, and facilities required by the Model gave prime consideration to accommodating the student's needs. The specifications (as modified after cost analysis) which evolved are detailed in Chapter IV. The specifications formed the basis on which the cost analysis and cost effectiveness studies were made.

Analysis of Costs. On the basis of the strategy and specifications of implementation, cost analysis and cost effectiveness data were assembled. During this stage of the study, financial resources were considered critical. This necessitated a series of compromises resulting from an examination of the ideal--as specified by the Model--and the realistic--as dictated by financial and human constraints. The data which were generated by the cost analysis were used to lend additional clarity to the implementation plan and the specifications. The cost analysis and cost effectiveness data are reported in Chapter V. Potential adopters of the Model should find these data useful in their own planning.

Examination of the Exportability of the Model. An intended product of the feasibility study was an instrument which would assist potential protocooperative groups or teacher education institutions in assessing their own readiness to undertake implementation of the Model. However, after some careful thought about this issue, it was decided that a simulation might better accomplish this goal. Therefore, efforts regarding exportability focused instead on the collection of data about the attractiveness of the Model as perceived by a wide range of teacher educators from institutions outside of the Syracuse University Protocooperative. The thinking here was that for the Model to be exportable, potential adopters and adapters had to first come to understand the Model and find it attractive. Indeed, they must see it as being more appealing than their existing programs if they are to consider adoption. Therefore, the major focus with regard to exportability has been to inform teacher educators about the Model and to assess their reactions to the various aspects of the Model. The description of these procedures and a summary of the perceptual data collected are presented in Chapter VI. These data indicate that those teacher educators sampled in this study do find the Model to be attractive.

Design of the Simulation. A simulation seemed to offer the most effective means of making potential adopters of the Syracuse Model aware of the dynamics involved in implementing the program. With this in mind, the simulation--a full day in length and involving approximately twenty participants--was designed to: (1) acquaint a potential protocooperative's decision makers with the various features of the Model, (2) give those decision makers the experience of working together as a protocooperative rather than as the representatives of individual institutions, (3) allow them to assess their readiness as an adopting protocooperative, (4) make them aware of the kinds of problems they would face in implementation and operation, and (5) let them examine the ways in which they might overcome such problems. An explanation of the procedures used in designing the simulation, a brief description of the simulation, and some comments on its usefulness are presented in Chapter VII. Copies of the simulation are available from the Syracuse University Protocooperative (School of Education, Syracuse University, Syracuse, New York 13210) for those teacher education institutions wishing to play the simulation.

Determination of Final Specifications. The cost analysis and cost effectiveness studies provided a basis finalizing the implementation plan and the specifications. The cost data suggested modifications in both the master implementation strategy and the initial specifications. The modified plan is presented in Chapter III; the modified specifications are detailed in Chapter IV; and the procedures used in producing the final plan and the final specifications are described in Chapter VIII.

Preparation of the Final Report. The final task of the study was the preparation of this document, the final report. A very serious attempt has been made to make this report useful to those who are considering adoption or adaption of the Syracuse Model. So that those contemplating adoption of the Model might have a better understanding of the problems they will need to examine, attention has been given to both the procedures and products of the feasibility study. In this, the first chapter of the final report, brief descriptions of the feasibility study procedures are presented. More elaborate descriptions of the tasks undertaken as well as the output of those tasks are contained in subsequent chapters.

CHAPTER II

REFINEMENTS OF THE MODEL

The Model Refinement Task Force

The refinement of the Syracuse Phase I Model was the first task in the feasibility study. Members of the Model Refinement Task Force were:

Task Force Leader:
Thomas Samph (Syracuse University)

Task Force Staff:
Robert F. Bickel (Eastern Regional Institute for Education)
John B. Hough (Syracuse University)
Margaret Z. Lay (Syracuse University)
Gerald M. Reagan (Syracuse University)

Task Force Consultants:
Catherine O'C. Barrett (New York State Teachers Association)
John Brandano (Jamesville-Dewitt Central Schools)
Susan Braiter (Niskayuna Central School District)
Thomas F. Cummings (Liberal Arts, Syracuse University)
Mary Durkee (Syracuse City School District)
Joy Gregg (Syracuse City School District)
Donald J. Harvey (Canastota Central Schools)
Stephen S. Israel (Niskayuna Central School District)
Gene Kane (Syracuse University)*
Walt A. LeBaron (System Development Corporation)
Carmella Mantaro (Jamesville-Dewitt Central Schools)
Thomas Miller (Syracuse University)*
Robert Mussey (Syracuse University)*
Robert E. Newman (Syracuse University)
Luton R. Reed (Educational and Cultural Center Serving Onondaga and Oswego Counties)
April Rowland (Syracuse University)*
Barbara Schroeder (Syracuse City School District)
Charles Singer (Syracuse University)*
Emily Weller (Syracuse University)*
Sheila V. Wentworth (Canastota Central Schools)

*Syracuse University Undergraduate Student

The Model Refinement Task

The Phase I Model,[1] as developed by Syracuse University personnel and their consultants, suggested that the implementations of the Phase I Model would be best accomplished through the protocooperative efforts of several different institutions. Since this was the strategy implied in the Phase I Model, it was believed that the most adequate kinds of analysis, study and refinement of the Model, could be accomplished through employing the resources of the many institutions combining to form the Syracuse University Protocooperative. This included Syracuse University personnel, staff members of the Educational Policy Research Center at Syracuse University, undergraduate and graduate students enrolled in teacher education programs, first-year teachers who were recent graduates of teacher education programs, as well as various consultants. The many different background experiences and competencies of the persons charged with the Model Refinement responsibilities enhanced the quality of inputs which were brought to bear on the refinement of the Phase I Model.

Although the Model Refinement Task Force had certain major objectives, its success in achieving those objectives depended in great measure upon the very notion of protocooperation. The Model Refinement Task Force was a test of protocooperative interaction. As the many institutions began the feasibility study by joining to create the Model Refinement Task Force, so the growth of the fledgling Syracuse University Protocooperative began to be strengthened.

Numerous and as complex as the objectives were, the Model Refinement Task Force set out to accomplish six tasks:

1. Review the other eight models developed in Phase I and the evaluation of the final report of the Syracuse Model.[2]

2. Analyze and, where necessary, refine the assumptions as stated in the original Model.

3. Assess the original Model in terms of internal consistency among the instructional components, modules, and aspects of the support systems.

---

[1] Syracuse University. Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary School Teachers. United States Office of Education, Contract No. OEC-0-8-0918-3313(010), October 31, 1968.

[2] Syracuse University. Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary School Teachers: Evaluation of Final Report. United States Office of Education, Contract No. OEC-0-8-0918-3313(010), December 31, 1968.

4. Thoroughly critique and modify, as deemed necessary, the assumptions underlying the Model as well as the specific instructional components, modules, and aspects of the support systems proposed in the original Model in order to determine their phenomenological reality as perceived by:
    a. Students enrolled in teacher education programs.
    b. First-year teachers.
    c. Members of the Syracuse University Protocooperative.

5. Analyze the assumptions and specifics as well as the situational reality and reasonableness or "validity" of the original Model in terms of the nature of society in the latter half of the 1970's.

6. Determine the acceptability of the Model in terms of the Protocooperative Organization which will ultimately be responsible for the development and implementation of the refined Model.

In addition to achieving the above tasks, the Model Refinement Task Force raised and discussed significant questions which resulted in alterations of the original Model. Such questions considered:

1. The appropriateness and adequacy of each of the varying program components.

2. The appropriateness and adequacy of the support systems as related to the total program.

3. The very different competencies and new roles required of the campus and field personnel.

4. The benefits accrued by each member of the Protocooperative.

5. The nature of operational relationships among members of the Protocooperative.

6. The nature of operational relationships within the institutional framework of the Protocooperative.

The final outcome resulting from the research and analysis of the task force is a refined model. The refined Model is perceived as a realistic program by education students, beginning teachers, and experienced teachers, is perceived as contextually realistic and acceptable to members of the Syracuse University Protocooperative, and is perceived as consistent with the future projections of teacher education and its societal context in the late 1970's. As a reasonable, realistic, coherent model, the refined Model has served as the Model, the feasibility of which is the subject of the remainder of this study.

To rewrite and republish a refined Phase I Model based on the work of the Model Refinement Task Force is impractical. Such is not the task of, nor the purpose for, the feasibility study. What follows are explanations of the revisions distilled from the products of the Model Refinement personnel. The explanations will proceed in four sections:

1. Modifications to the Assumptions of the Model.
2. Additions to Program Components and Program Support System Descriptions.
3. Modifications to Program Components and Program Support System Descriptions.
4. Suggested Modifications to Be Studied by Empirical Testing During Development and Implementation Phase.

The additions and modifications should be viewed by potential adopters and adapters as tentative; that is, the revised Model document still represents an initial stage in the development of a model program. Thus, it is a planning document. As a planning document, no part of it is conceived to be unchangeable. The refined Model constitutes the Model today, intended as a point of departure for the eventual development of a teacher education program with one single given: No part of the program is sacred except the assumption that no part of the program is unchangeable. The processes and products of change will vary greatly in the years ahead; if the program becomes rigid in any way, this single given will have been violated and the Model as an entity unto itself will cease to exist.

In this chapter the following distinctions should be recognized:

1. "Additions to the Model" represent new text that has been added to the original text of the Model Program.
2. "Modifications to the Model" represent deletions and/or deletions and additions to the original text of the Model Program.
3. "Suggested Modifications to Be Studied" represent the dispositions of suggested revisions that call for program to test elements once the program is operational.

Modifications to the Basic Underlying Assumptions of the Syracuse Model

An examination of the assumptions underlying the structure of the Model revealed there were assumptions implicit within the Model that were not explicitly stated. There were also cases where two or more assumptions were included under the rhetoric of one of the basic underlying assumptions. In addition, the Educational Policy Research Center at Syracuse University had produced several documents that were useful in relating the underlying assumptions of the Syracuse Model to the projected nature of teacher education in the future. The revised assumptions that follow reflect these three kinds of input.

Assumption One. It is assumed that the present rate of social change will continue and perhaps increase. This change will certainly include modifications in educational processes and will likely lead to a need for different attitudes, competencies, and roles for those engaged in the educative process. (This reflects a modification in Underlying Assumption One, page 1.)[3]

Assumption Two. Although continued change is assumed, many specific changes which will occur cannot be predicted. Therefore, we assume that a major need in all education is to equip people to manage or to cope with change. (This reflects a revision in Underlying Assumption Two, page 2.)

Assumption Three. We assume that teacher competence and attitudes will be redefined as future social and/or educational conditions warrant. Thus the competent teacher will be one who develops the capacity for self-education as the demands upon him become modified. (This reflects a revision in Underlying Assumption Two, page 2.)

Assumption Four. Although the role of the teacher and the school in which he teaches may become radically modified, we assume that there will be growing need for teachers who are more than technicians. In addition to being technically competent, teachers must be both humane and skillful in the process of bringing about change within educative agencies. Thus we are assuming that although educative institutions of the future may differ markedly from those which we know at present, teachers will have an increasing degree of decision-making authority. We hold that this Model Program should seek to help teachers recognize and use this authority in a responsible manner that assumes accountability for their decisions. (This reflects a revision in Underlying Assumption One, page 1.)

Assumption Five. We assume that education does and will continue to occur in a variety of institutions and agencies; e.g., the family, mass media, church, industry, and peer groups. Although we cannot predict with accuracy the relative strengths of the various educative agencies in the future, we do assume that there will continue to be institutional schooling in some form. We further assume that the content of this institutional schooling will sometimes be reinforced and other times be in conflict with the educative goals and means of other agencies. Therefore, we assume that a model program should prepare teachers to work in institutionalized educative agencies and other groups and institutions as well. (This reflects a revision in Underlying Assumption Two, page 2.)

---

[3] Page numbers in this section refer to pages in the Phase I final report, Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary Teachers. Since the page numbers are the same in both the editions printed by Syracuse University and by the Government Printing Office, either edition may be used as a reference.

Assumption Six. Because we cannot educate a teacher with fully developed competence to teach in institutionalized educative agencies which have not yet been developed, we assume that a major task in the program is to provide experiences which will enhance the teacher's capacity for self-education in the future. We further assume that these experiences will include due attention to all aspects of the educative process which includes theoretical and practical, empirical and normative, humanistic, and the technological. (This reflects a revision in Underlying Assumption Five, page 3.)

Assumption Seven. Because we recognize that a "good" program at one point in time may at another point in time constitute a "crime against humanity," we assume that any adequate model of teacher preparation must be modifiable as evidence demands or as socio-educational conditions warrant. (This reflects a revision in Underlying Assumption One, page 1.)

Assumption Eight. We assume that an intent-action-feedback model is essential to program modifiability and is thus to be utilized in the program and by all participants. (This reflects a revision in Underlying Assumption Three, page 2.)

Assumption Nine. We are convinced of the need for self-directed teachers, and we hold that this requires a recognition of individual differences of students. To assume that it is desirable for each student to go through the same educational experiences would be to deny these differences. Thus, this Model Program is designed to provide for differential progress of students. Among the individual differences of students assumed here are learning styles, learning rates, and what a student considers important to learn. We further assume that a program and its professional staff must recognize and respond to these student differences if it is to foster and develop self-directed and self-renewing teachers. (This reflects a revision in Underlying Assumption Five, page 3.)

Assumption Ten. At this state in the development of teacher education, there are many diverse views regarding what form a teacher education program should take. Empirical evidence is not overwhelmingly in favor of any one of these views. Hence, this Model was created to include elements from many diverse views. Our goal has not been eclecticism but the creation of an atmosphere of open dialogue in which hypotheses generated from many views can be tested. Throughout the description of the Model, the term pluralism is used to indicate our intellectual debt to this variety of sources. (This reflects a revision in Underlying Assumption Five, page 3.)

Assumption Eleven. Although we endorse elements from many diverse points of view, we assume that a self-directed program and self-renewing teachers are goals that will be shared by adopters of this Model Program. But, although we assume shared goals, we also hold to a position of pluralism with regard to means; i.e., we do not assume that a particular goal demands a particular means. Thus we assume that any one of a number of means may be used to reach a particular goal. Although we assume a pluralism of means, we do not assume acceptability of any means. Some means would be rejected because they are incompatible with normative considerations; e.g., we would not advocate the use of any means which would degrade students or professional staff or constitute an involuntary invasion of their privacy. (This reflects a revision in Underlying Assumption One, page 1.)

Assumption Twelve. We assume that curriculum and instructional development in teacher preparation programs should go beyond the conventional modification of courses and credit hours and should (a) include attention to factors which would facilitate development of materials, programs, and organizational structures, (b) guarantee and monitor program evaluation, (c) aid in implementation, and (d) monitor and support students in the process of going through the program. Thus central to this Model Program are support systems such as those described in this document. (This reflects a revision in Underlying Assumption Three, page 2.)

Assumption Thirteen. We assume that the preparation of teachers should be increasingly a joint endeavor involving a variety of professional and lay groups. For example, we assume that such institutions as universities, public schools, industries, regional educational agencies, student groups, parent and lay public groups should be in some way involved in the planning, implementation, and ongoing evaluation of teacher education programs. (This reflects a revision in Underlying Assumption Six, page 4.)

Assumption Fourteen. We assume that the Model Program described in this document will operate most effectively in the context of protocooperation. (Protocooperation refers to a condition in which two or more organisms in interaction mutually benefit from nonobligatory relationships. When the organisms are not in interaction, no harm accrues to any of the organisms. In this case, organisms refer to both institutions and people.) We assume the continued existence and interaction of a variety of groups and agencies concerned with the education of teachers. We further assume that the optimum functioning of this Model Program is ultimately dependent upon the quality of interaction implied by the concept of protocooperation. We recognize that protocooperation as described in this report is not a precondition for implementation. It is an ideal toward which adopters of this Model should strive. (This reflects a revision in Underlying Assumption Six, page 4.)

Assumption Fifteen. We assume that as this program is implemented and operated, students and professional staff will participate in planning and evaluation and will have available to them adequate grievance procedures. We further assume that each participant will execute his function in such a way as to facilitate the purposes of the program and the self-fulfillment of both students and professional staff. Within this context we recognize that members of the Protocooperative do have, in certain cases, primary responsibility to their unique constituencies; for example, the public schools to their pupils. (This reflects a revision in Underlying Assumption Six, page 4.)

Assumption Sixteen. Although a major purpose of this Model is the initial preparation of elementary school teachers, that purpose can be served best when the involved professional personnel are adequately prepared. Thus we assume that it will be necessary to develop an inservice education program for the university-based and public school-based professional personnel. It is further assumed that this inservice education, although incidental to the major purposes of the Model Program, will be of substantial benefit to all groups involved. (This reflects a revision in Underlying Assumption Four, page 3.)

Assumption Seventeen. We assume that all students will be admitted to the program on the basis of expectation of student success. We further assume that over time refined procedures and increased faculty accountability will ensure a greater probability of success for students of diverse talents and dispositions. We would further assume that, in the evolution of the program when continuing evaluation of the students' progress indicates the likelihood that the expectation of success has been replaced by an expectation of failure, adequate provisions will be made to handle such expectations. Thus while we assume that all students should be admitted to the program with the expectation that they will succeed, we do not assume that all students will in fact succeed. Thus we assume that a program of the type described in this report may not be the most effective program for all students who wish to become teachers. We further assume that all students who wish to become teachers may not have the capabilities and dispositions needed. (This reflects a revision in Underlying Assumption Four, page 3.)

Assumption Eighteen. We assume that all aspects of this Model require a faculty of flexible and competent people. Moreover, crucial to the implementation of certain aspects of this Model Program is the assumption that some experiences require on the part of some members of the professional staff competencies that are not typically found in teacher education faculties. We assume, therefore, the necessity of recruitment and the continuing inservice education of members of the professional staff who would implement and operate this program. (This reflects a revision in Underlying Assumption Four, page 3.)

Additions to Program Components and Program Support System Descriptions

1. The addition occurs as an insert on page 1, line 13: "...program in his institution. Elementary Education, as defined in this Model, involves pre-school through eighth grades. If the Model does not seem to be...."

   The task force felt the Model should make specific what years "elementary education" implied. The decision was to include the preparation of teachers for pre-school, primary, intermediate, and middle school education under the rhetoric of elementary education.

2. The addition occurs as a new paragraph on page 5, following line 7: "At any time during the first two years of the program, students may elect to tutor pupils in protocooperative, public school settings. This is viewed as a voluntary experience undertaken by the individual in accordance with his goals. It is not necessary for him to formally commit himself to teaching so that he may tutor pupils. Tutoring during the Freshman and Sophomore years is an option exercised by him with advisement from his counselor-advisor."

   The task force felt that students in the program should be able to experience personal contacts with children prior to pre-professional-year tutorials. This revision is the first of several revisions that clearly indicate where students may, upon their own choice, exercise an option to tutor pupils in public school settings from their Freshman year through their Resident year.

3. The addition occurs as an insert on page 5, line 9: "...provide the student with a formal pre-professional introduction to the field...."

   The addition of the word "formal" serves to highlight the fact that students may elect to do informal activities during their pre-professional year--tutoring, for example.

4. The addition occurs as a new paragraph on page 7, following line 16:

   "There are, then, three types of field centers (Tutorial and Micro-teaching Centers, Teaching Centers, and Resident Centers) that serve a variety of program functions. Depending upon the nature of the public school system in which these centers are located, it would be possible for the three centers to be contained within one building. Or, for example, the three centers could be spread over six public school buildings, one church, and two neighborhood child day-care centers."

   The task force felt the Model should indicate that the three field centers need not be contained within three distinct physical structures. Their location would depend upon the facilities of the public school systems and the community within which the Model is to operate.

5. The addition occurs as an insert on page 7, lines 17 and 18: "...of formal professional study and practice based on a foundation of liberal studies. The three years of formal professional study and practice are designed...."

   The reasoning here is similar to that expressed in the third revision. The task force felt that the formal professional activities should be distinguished from those activities which are by nature informal but still professional.

6. The addition occurs as an insert on page 8, line 22: "...directed teachers (product). A fourth function of this system is to engage in follow-up assessments of program graduates as a further measure of program effectiveness. Finally, it is a function of this system...."

   Follow-up assessment of program effectiveness was not explicitly stated as part of the data feeding into the Information and Evaluation Support System. The task force felt these data to be valuable inputs to the program evaluation procedures and it was therefore included as a revision to the Model.

7. The addition occurs as an insert on page 19, line 12: "...two years are devoted to liberal studies and the tutoring of pupils if the student decides to exercise this option. The Junior year begins...."

   This revision emphasizes again the desire of the task force to extend a voluntary tutoring experience into the Freshman and Sophomore years. Exercise of this option by the student is consistent with the programmatic goal of enabling a student to become a self-directed decision maker.

8. The addition occurs as an insert to Figure 1.2, page 20: The thin rectangle, Self-Directed Component, should extend the entire length of the Overview and the words "Voluntary Tutorial Experiences" should be added above the extended Self-Directed Component in the Freshman and Sophomore years.

   This corrects the Overview of the Model so as to keep this symbolic representation consistent with revisions 2, 3, and 7.

9. The addition occurs as two additions to the list of promising ideas in teacher education on page 29, line 14: "individualized instruction" and "independent study."

   The task force felt that even though several of the ideas listed were examples of individualized instruction and independent study, the terms should be added to the list because they are inclusive of ideas not enumerated.

10. The addition occurs as an insert on page 35, line 19: "...the Junior year). During the Freshman and Sophomore years the student is offered the opportunity to tutor children. As has been previously stated, these informal tutoring experiences are voluntary because of the student's commitment to the study of the liberal arts."

    This revision is consistent with the revised tutoring experiences mentioned in revisions 2, 3, 7, and 8.

11. The addition occurs as an insert on page 37, line 34: "...objectives of the module. The pre and post measures of performance will be specifically designed around the unique features of each module and will provide a pathway for individual student feedback into the Information and Evaluation Support System. On the basis of pre-test performance, a student...."

    The task force specified that each pre and post test should be written to assess the particular activities of each module. At another point the task force also specified that each individual student should be accounted for in the Information and Evaluation Support System. While these two points were contained in the Model, it is evident from the task force's recommendations that they were not sufficiently emphasized. This revision remedies that situation.

12. The addition occurs as an insert on page 46, line 1: "...the first formal field contact and the first, for some students, of the cooperative instructional...."

    This revision emphasizes that the tutoring specified in the Junior year is formal; that is, tutoring experiences are required of the student during the pre-professional modules. If a student has chosen not to tutor children in his Freshman and/or Sophomore year, then the Junior Pre-Professional year is his first "formal field contact."

13. The addition occurs as an insert on page 46, line 15: "...students in their tutorial relationships with the pupils. In addition, the clinical teachers will work closely with the students explaining to them the function of and roles played by the variety of personnel found in a public school. The explanation would encompass administrative, instructional, and para-professional positions. These clinical...."

    The task force indicated that the Model neglected to formally expose students to the responsibilities of the myriad of personnel one can find in a public school. To help eliminate this potential problem and to provide students with teachers' opinions of what these responsibilities are, this revision was made.

14. The addition occurs as an insert on page 48, line 17: "...participation in student-faculty forums, enabling seminars, participation in the writing of...."

    Student-faculty forums are a new element added to the Self-Directed Component. The student members of the task force recommended that some manner of student and faculty confrontation be formally provided by the program. The essential point concerning the forum is that it is not a regularly occurring function of the Self-Directed Component. Rather, it is a programmatic element that becomes operational only when requested by either a faculty member or a student. The forum's function is to serve as a legitimate stage for airing feelings that either of the players feel must be aired. The issues discussed in the forum will become part of the Information and Evaluation Support System through student conferences with their counselor-advisors.

15. The addition occurs as an insert on page 54, line 44: "...year. In addition to continuing the student-faculty forum, it is the responsibility of the Self-Directed Component...."

    This revision continues the forum into the professional year, keeping the Model consistent in this regard.

16. The addition occurs as an insert on page 62, line 30: "...preceding his Resident year of teaching. Students, then, have the latitude to become specialists in any area they desire. In review, this could include the more traditional areas such as reading specialist to specialization in marine biology to specialization in pre-Columbian Indian culture of the Eastern United States. It might even be that a student could decide to specialize as a generalist."

    The task force emphasized that the uniqueness of specialization in the Model was not sufficiently clear. This revision emphasizes the possible range of specialization available to the self-directed student.

17. The addition occurs as an insert on page 63, line 10: "...obtain provisional certification in most states. Those students who elect to graduate from the university at the end of their Senior year have the following option open to them. They are permitted to take as many of the Resident-year Social and Cultural Foundation Modules as is possible for them to do. It would be best for them to go through all the modules but realistic time constraints imposed by the Professional-year activities might make this unfeasible."

    The task force recommended that the Resident-year modules in the Social and Cultural Foundations Component be made available to Senior students contemplating graduation. This program is, of course, flexible enough to accomplish this, recognizing the very real time constraints of the Professional year. The revision was added merely to underscore this point.

18. The addition occurs as an insert on page 63, line 37: "...choice for an entire school year. The student, with the aid of his counselor-advisor, would explore the curriculum, specialization projects, economic setting, and other data peculiar to each Resident Center before committing himself to one for the entire year. At that Resident Center, the student...."

    This revision includes a dual recommendation of the task force. They felt that a student should have the choice of the particular Resident Center in which he taught. This was implicit in the Model. Secondly, the task force recommended that the student become very familiar with all Resident Centers before committing himself to one. In this way, his choice would be made on the basis of reasonable evidence, and he would be aware of each Center's operations and be better able to decide which would provide the kinds of opportunities and experiences he desired.

19. The addition occurs as an insert on page 63, line 40: "...or classroom in which each would be paid half a salary). The students may elect to change partners within a Resident Center during their year of Resident-year teaching. It would even be possible to change partners between Resident Centers given that the change would not be harmful to the pupils.

    The task force felt the description of fifth-year experiences with regard to the partnership teaching appeared to be too rigid. This revision underscores the implicit flexibility of the Resident-year experience.

20. The addition occurs as an insert on page 102, line 33: "3. Beginning formal teaching phase."

    This revision emphasizes that the students may have tutored earlier in the program, thereby having an informal teaching experience.

21. The addition occurs as an insert on page 102, line 39: "4. Advanced formal teaching phase."

    The revision again emphasizes the difference between the formal teaching experiences stipulated in the modules and the informal teaching experiences voluntarily engaged in by the student during his Freshman and Sophomore years.

22. The addition occurs as an added prerequisite to TTP-5, page 239, line 2: "I. Prerequisites: Completion of TTP-1, CD-1, CM-4."

    The Curriculum Methods module number 4, Behavioral Statement of Objectives, should logically precede Teaching Theory and Practice module number 5, Classes of Educational Objectives. This was the only revised prerequisite specified by the task force. The task force realized that additional prerequisites would only serve to create greater inflexibility within the program, thereby nullifying the self-paced aspect of a student's path through the modules.

23. The addition occurs as an insert on page 256, line 2: "I. Prerequisites: None. Concurrent with CM-13."

    The task force felt that students should have an understanding of elementary statistics (TTP-10) as a basis for interpreting standardized achievement tests (CM-13, page 148). Again the task force kept additional concurrencies at a minimum realizing their rigidifying effect on the freedom of student movement through the program.

24. The addition occurs as an insert on page 294, following line 22: "C. Discriminate the various feeling states exhibited by himself and his pupils, and note the effect of these feeling states upon the social-emotional climate of the classroom."

    The task force wished to amplify the notion of "feeling states" as mentioned both in the remarks made by the critics who evaluated the Model and on page 54 of the Model Program. The Professional Sensitivity Training Component was recommended as the most logical place to expand upon the notion of feeling states.

25. The addition occurs as an insert on page 294, following line 27: "C. Describe in writing how in several instances feeling states both inhibited and facilitated a given segment of classroom interaction using himself as referent in at least one case and a pupil as referent in at least one case."

    The revision follows the same reasoning as in the previous revision.

26. The addition occurs as an insert on page 303, line 35: "...Amidon and Flanders would be appropriate for the second. Also worthy of acquaintance as a style of interaction analysis is Charles Galloway's "Nonverbal Communication in Teaching" found in Teaching: Vantage Points for Study by Hyman."

    The analysis of nonverbal classroom communication patterns has recently become better known and accepted because of Galloway's work in this area. The task force recommended that the ability to perform this type of analysis be a specified requirement of the student at an appropriate place in the Model Program. The Professional Sensitivity Training Module, "Teacher Role, Behavior, and Style," seemed the most appropriate module in which to give this emphasis.

27. The addition occurs as an insert on page 320, line 46: "...foundations modules. Crucial to these applications are techniques

of investigation usually relegated to the disciplines of sociology and anthropology. This would include such techniques as participant observation, field studies, and sociometry."

The task force felt that the Model was too narrow in describing the scope of research methodology in this section. The above revision incorporates their suggestion to include techniques of data gathering shared by other disciplines of the social sciences and makes explicit specific techniques described in Module Group One of the Social and Cultural Foundations Component.

28. The addition occurs as a new paragraph on page 410, preceding the formal introductory paragraph beginning on line 5: "Self-directedness is a basic characteristic of the Model and as such infuses all student decision-making choices with a special character. This vital aspect begins in the Freshman year with the choices concerning informal tutoring, the liberal education component, and his traditional liberal arts course selection. There are, however, certain procedures in which a student's self-direction can be facilitated, and these are crucial to his development into a fully self-directed person. These facilitative procedures become critical as the student nears the time at which he must select a specialization and must necessarily reflect upon the process of his own education to refine his goals as a teacher of children. Such procedures are best formalized as a Self-Directed Component."

    A major question raised by the task force concerned the ambiguity of self-directedness as both a concept threading through the five-year Model and as a formal component in the program. This revision, as an introductory paragraph to the component, resolves the ambiquity.

29. The addition occurs as an insert on page 410, line 11: "...parts of the Professional Sensitivity Training Component, as well as the voluntary informal tutoring experience, provide a...."

    This revision clarifies the informal tutoring experience as having a self-directed dimension to it thereby establishing it as an informal part of the student's self-directed experiences.

30. The addition occurs as an insert on page 411, line 30: "...a critically analyzed understanding of modern practices. Given these ideals, an underlying assumption is that a mechanism should be provided for students and faculty to confront each other with comments concerning both the program's educational process and the student's personal educational process. The commentary would provide data to be fed into the Information and Evaluation Support System giving students, particularly, direct leverage to affect their own education. This...."

In reviewing the legitimate means by which students could influence the direction of their teacher education program, the task force felt there was too little opportunity for expression of their feelings as a power group. They recommended that a procedure be explicated in the Self-Directed Component that would enable students to exercise their power legitimately and meaningfully. The rationale was that the provision of legitimate and meaningful means will ensure their usage before illegitimate means are invoked.

31. The addition occurs as an insert on page 416, line 41: "During his Freshman and Sophomore years, the student interested in investigating a teaching career may contact an advisor from the Facilitation Center, who may well be another student, and enroll in an informal tutorial program. Students will, however, formally enter the Model Program at the start of the Junior...."

    The revision merely expands on the informal nature of the voluntary tutoring experience. It also mentions that some advisors in the Facilitation Center might well be student advisors. The Center could easily be home for a variety of programs conceived, organized, and operated by students.

32. The addition occurs as an insert on page 417, line 22: "...the Self-Directed Component which formally begins upon completion of Module PST-1."

    Again, the revision underscores the fact that the Self-Directed Component begins informally in the Freshman and Sophomore years with the voluntary tutoring experience.

33. The addition occurs as an insert on page 419 and follows line 29: "Student-Faculty Forum. In a program and component that encourages students to question the nature of their own education, a method of making their suggestions directly known to their teachers must be provided. Likewise, a teacher whose teaching is expected to reflect the self-directedness of that teacher's personal learning should be able to confront his students with questions he feels are necessary to mention. The Student-Faculty Forum is the structure that will allow this interchange.

    While it is a part of the Self-Directed Component, the Forum may be called by either faculty or students to discuss any issue regardless of what that issue concerns in the program. The Forum is not intended to be a regularly occurring function but rather may be called at any time by any person, student, or faculty. It would then be up to the students to get their impressions into the evaluation network by interaction with their counseling-advisors who would feed student opinions, criticisms, and suggestions into the Information and Evaluation Support System.

    In structuring the organization of the Forum in this manner, students and faculty have a mutual and legitimate path of grievance

POOR ORIGINAL COPY -
AVAILABLE AT TIME FILMED

remediation open to them. It could be that the need to use the Forum never would arise. The student newspaper and counseling relationships might achieve the same end. Should the need for such a structure arise, however, the Forum is readily made operational.

The distinction between the Forum and the Enabling Seminars must be emphasized: Enabling Seminars focus upon curricular questions while the Forum focuses upon the resolution of student-faculty grievances and/or the integration of student-faculty support behind a particular issue or cause."

This revision expands and clarifies the methods by which students and faculty may face each other in advancing toward particular goals. The suggestions made in a previously stated revision (No. 30) are made specific.

34. The addition occurs as an insert on page 420, line 9: "...of study (or specialization) related to his central aims in teaching. It could well be that a student might decide to specialize as a generalist as his central aim in teaching."

    The revision merely adds further clarification to the nature of specialization in the Model and emphasizes the possibility of specialization as a generalist.

35. The addition occurs as an insert on page 420, line 35: "...enabling seminars and the Student-Faculty Forums will be coordinated and facilitated by a Facilitation...."

    The revision clarifies the location of the Forums.

36. The addition occurs as an insert following line 36, page 430: "11. Working directly with students and faculty to organize Student-Faculty Forums and insuring feedback to the Information and Evaluation Support System Director as to the results of the Forums."

    The direct responsibility for organizing the Forums would lie with the students, faculty, and/or counseling-advisors. The Director of the Facilitation Center should insure the smooth operation of the Forum organization, and this revision clearly makes that operation one of his responsibilities.

37. The addition occurs as an insert on page 483, line 6: "...from its applicants. Other information is collected from graduates of the program regarding their impressions of how well their preparation suited them...."

    The revision expands on revision No. 6 and specifically states follow-up assessment as part of the Information and Evaluation

Support System. This is in line with the task force recommendation in this regard.

Modifications to Program Components and Program Support System Descriptions

1. Modify page 36, line 8, to read: "...professional and Resident years, (2) to provide more opportunities to...."

   The revision makes this section of the Model consistent with the added tutoring experiences of the Freshman and Sophomore years. A purpose of the Pre-Professional year is to give the student more opportunities to tutor given the fact that some students have already engaged in a tutorial relationship.

2. Modify page 89, lines 14 and 15, to read: "The student will be exposed to methods and materials as early as the Freshman year in the informal tutorial experiences although modular instruction formally introducing them to methods and materials occurs in the Pre-Professional year; however, the heaviest emphasis will be during...."

   This revision clarifies the introduction to the Methods and Curriculum Component with respect to the informal tutorial experiences.

3. Modify page 148, line 2, to read: "I. Prerequisites: Completion of Module CM-10, simultaneous with...."

   The revision corrects an error in the writing of the Model.

4. Modify page 151, line 4, to read: "...Modules CM-11 through CM-13 and CM-15 through CM-16. Concurrent...."

   The revision corrects an error in the writing of the Model.

5. Modify page 148, starting at line 2, to read: "It is the counseling-advisor's job during the first conference, which may be at the beginning of the Freshman, Sophomore, or Junior year (and perhaps other early semester conferences), to help the student express clearly and explicitly his ideas at the point of the student's deepest understanding. If the student is from the Freshman or Sophomore year, the advisor's major task will be to act as a guide toward voluntary tutorial experiences. Beginning with the Junior year, the counseling-advisor will ask the student...."

   This revision clarifies the counseling-advisor's role with respect to advising Freshmen and Sophomores about the informal tutorial sessions.

6. The task force recommended a more realistic appraisal of student, university faculty, and clinical professor and teacher time spent in each module. There were 186 such revisions accomplished by the task force, and they appear within the specifications of each of the modules which are detailed in Chapter III.

Suggested Modifications to Be Studied by Empirical Testing During Development and Implementation Phase

There were many revisions suggested that must be empirically studied once the Model becomes operational. These revisions can be categorized into the following three suggestions:

1. The Model specifies a variety of instructional techniques such as role-playing, programmed instruction, video-taped classroom scenes, etc. It is entirely possible that one technique might be more efficient in a given situation than another; for example, role-playing a parent conference might be a more efficient way to learn how a parent feels when confronting a teacher than reading a text about parent conferences. Presently the Model lists techniques that were considered "best" by the designers. Once the evaluations of the modules are available from the Information and Evaluation Support System, the worth of certain techniques can be assessed. At this time, inefficient techniques can be identified and replaced by alternative techniques which can then be assessed to determine their merit.

2. The Model specifies a number of field experiences such as informal and formal tutoring, single concept teaching, and so forth. The task force felt these experiences should be more fully integrated into the modular structure of the program. The post-testing of modules accomplished in the implementation phase will reveal where a better integration might best take place. Through the intent-action-feedback, self-correcting feature of the program support systems, this integration will be accomplished by a redesign of the several modules.

3. In several cases the curriculum content of several components was questioned by the task force. As with the integration of tutorial experiences in the previous suggestion, the evaluation of the modules and feedback from the students will indicate the merit of the curriculum specified in the modules. If there is a need for change on the basis of data analyzed by the Information and Evaluation Support System, that change will occur.

Refinement Summarized

Some 250 revisions to the Model have been explicated in this the second chapter of the report. Those revisions represent the best thinking of teacher education students, beginning and experienced public school teachers, public school administrators, the president of a state teachers' association, liberal arts and teacher education professors, governmental educational agency personnel and representatives from educational industry. All of these persons directed their efforts toward a redefinition of the Model from their own unique points of view. Further revisions occurred as the specifications regarding each instructional module were detailed.

Yet in a very real sense, these efforts represent only a point of embarkation for the Model was designed in accordance with the intent-action-feedback notion of self-correction and self-renewal. Therefore, the refined Model is the product of an attempt to bring it to a state of potential development consistent with the biases of a wide range of representatives from the Protocooperative. One might speak of this Model as being a second generation model or perhaps it is more appropriate to think of it as a dynamic, changing organism which requires constant attention. Indeed, change must be welcomed and nurtured for it is the essence of the Model.

CHAPTER III

IMPLEMENTATION STRATEGIES

The Implementation Strategies Task Force

This chapter details the long-range implementation strategies relevant to the development and operation of the Model. Members of the Implementation Strategies Task Force were:

Task Force Leader:
Joseph H. Oakey (Niskayuna Central School District)

Task Force Staff:
Burton G. Andreas (Eastern Regional Institute for Education)
William P. Kent (System Development Corporation)

Task Force Consultants:
Geraldine Cleary (Canastota Central Schools)
Martin Davis (Niskayuna Central School District)
Anne DeFrancisco (Canastota Central Schools)
Mary Elizabeth Emerson (Jamesville-Dewitt Central Schools)
Olcott Gardner (Jamesville-Dewitt Central Schools)
Joy Gregg (Syracuse City School District)
Harriet Murphy (Niskayuna Central School District)
Ronald E. Osborn (Jamesville-Dewitt Central Schools)
Margaret Williams (Syracuse City School District)

The Implementation Strategies Task

The task was to discuss, review, and select various strategies for the development and operation of the Syracuse Model. Decisions were somewhat simplified by the products of the Model Refinement Task Force as the eighteen assumptions adopted by that task force provided a general operational framework for the implementation of the Model. It was decided to operate within this framework, thus allowing for greater detail regarding the strategies which did not conflict with the assumptions.

The task focused on six broad areas of concern relevant to the development and operation of the Model. These areas were as follows:

1. Organizational Structure.

2. Management Structure.

3. Implementation Schedule.

4. Staff Recruitment and Development.

5. Student Recruitment.

6. Curriculum, Facilities, and Materials.

The format of this chapter is to provide rather detailed descriptions of the implementation strategies recommended for the Protocooperative with regard to each of the six areas of concern. The alternative strategies which were considered but not selected are also presented here. The recommended strategies do reflect refinements made by the Final Specifications Task Force which examined each strategy in light of the specifications regarding the human, material, facility, and financial requirements necessitated by the Model as determined and described by the Specifications and Cost Analysis Task Forces.

The critical terms which are used to describe the stages of implementation and which have particular meanings within the context of this report are as follows:

1. Development. Development refers to the planning, staff development, and preparation of curricular materials, evaluative instruments, and facilities necessary for operational testing.

2. Operational Testing. Operational testing refers to the tryout of program elements, components and modules with staff and students performing at the various particular program stages to generate evaluative feedback to be used for refinement and redevelopment purposes.

3. Operation. Operation refers to the education of students and interns after development and operational testing with further refinement, as provided for in the Model, continuing in a more limited but ongoing, self-renewing fashion.

4. Implementation. Implementation refers to the total effort including all three of the above stages. Implementation is the effort needed to change the elementary teacher education program at Syracuse University from its present program to an operational program based on the Model.

Organizational Structure

One of the most central of the issues regarding implementation is concerned with the nature of the organization or organizations which shall be involved in the development and operation of the Model. One of the assumptions of the Model calls for protocooperation among a teacher education institution, public schools, governmental educational agencies, and educational industry. Since protocooperation is a notion with great appeal, decisions regarding organizational structure were made within a protocooperative context.

Recommended Organizational Structure. Building upon the assumptions of the Phase I Model, upon a long history of relationships with school systems in the Syracuse area, and, in particular, upon experiences during the conduct of the feasibility study, it was recommended that Syracuse University shall be joined by Canastota Central Schools, Jamesville-Dewitt Central Schools, Niskayuna Central School District, Syracuse City School District, Eastern Regional Institute for Education, Educational and Cultural Center Serving Onondaga and Oswego Counties, Finger Lakes Region Office of Educational Planning, Educational Policy Research Center, and System Development Corporation in the formation of the Syracuse University Protocooperative, a federation of organizations and institutions for the development, operational testing, and long-term operation of the Syracuse Model Elementary Teacher Education Program.

Membership in this group shall be considered open and flexible. As in the case of Syracuse University, all institutions and organizations in the Protocooperative are, and shall be, of recognized status in contributing to education and/or teacher education and of demonstrable ability to make special contributions to this enterprise. Besides these general qualifications for membership, each organization seeking to join the Protocooperative would be required to:

1. Endorse the Syracuse Model.
2. Be authorized by the official governing body of the organization to participate as appropriate.
3. Indicate a willingness to enter into contractual obligations with the Protocooperative for appropriate activities, services, and products.
4. Be approved for membership by the Advisory and Executive Boards of the Protocooperative.

Other characteristics which are highly desirable, but which are not required, include:

1. The likelihood of long-term, continued involvement.

2. Personal commitment of those members of the institution who would actively participate in the Protocooperative.

3. Geographic proximity or accessibility as pertinent.

In addition to organizational or institutional membership in the Protocooperative, provision shall be made for significant participation in the development, operational testing, and operation of the program by individuals representing groups such as the following:

1. Undergraduate and graduate elementary teacher education students.

2. Parents of elementary school children in cooperating schools.

3. Professional education organizations.

4. State departments of education.

Member organizations shall be represented on the Protocooperative Advisory and Executive Boards and, in this way, shall have a voice and vote in decision-making on policy. A member organization may contribute through representation on the Advisory and Executive Boards, through the participation of its personnel on one of the Advisory Committees, and through the assignment of a member of its staff to one of the positions in the Protocooperative. Persons contributing to the Protocooperative will do so in ways that will aid the Protocooperative in achieving its goals while complementing other work conducted by their own organization, as reflected in Assumptions Thirteen, Fourteen, and Fifteen stated earlier in this report.

During the development and operational testing of the Protocooperative program, all activities involving member organizations shall be on a contractual basis, with contracts developed jointly by the organizations and the Protocooperative and approved by the Advisory and Executive Boards. Due to its primary involvement as the major teacher education institution within the Protocooperative, Syracuse University shall be the prime contractor as it has been during the earlier phases of the Model development and feasibility study. Member organizations of the Protocooperative may enter into contractual arrangements to provide personnel, facilities, and materials.

Students in the Model Program shall pay tuition and fees to the University, with possible assistance from scholarships or fellowships, and a portion of these monies will then become available to the Protocooperative. Unusual costs incurred by students as required by the program shall be reimbursed from program funds. Also, any special work done by students shall be compensated. During the fifth-year internship, teaching duties performed by resident interns shall be compensated by the school district being served.

Alternative Organizational Structures. A principal, alternate strategy which was considered but is not recommended would be to form a new, nonprofit corporation to develop, test, and operate the teacher education program. Forming and funding this new corporation, although legally possible and perhaps possessing certain benefits, is considered to raise too many problems to be considered seriously; staffing and acceptance by the educational community would be particularly difficult.

The constraints of the Model, with its emphasis on protocooperation by diverse educational organizations, seems to preclude many other alternative ways of organizing and operating.

Management Structure

An effective management structure and clarification of the roles to be played by administrative, instructional, and support personnel are crucial to the development and operation of the Model Program. A great deal of thought went into the structure which is described in this section.

Recommended Management Structure. The management structure outlined below is designed to be consistent with the assumptions of the Model. For this reason it emphasizes "coordination" rather than "direction" or "management," it makes extensive use of advisory committees, it is responsive to the concept of protocooperation, and it respects the fundamental self-direction (or self-management) of students. At the same time it reflects a concern with action and achievement by focusing responsibility, authority, and resource control in the hands of individuals. Committees are considered to be checks and balances rather than line managers.

The structure also emphasizes the primacy of the instructional enterprise. Support activities are and must remain ancillary. For example, it will be noted that the development of instructional programs is a major responsibility of the Instructional Coordinator, not the Program Support System Coordinator. The Program Support System is a resource for use by the instructional program but should not be free to develop materials on its own initiative. Support staff, of course, should advise and recommend possibilities for the use of the instructional program but should have no independent authority to commit resources to development activities.

Figure 1 presents a schematic representation of the recommended management structure.

The roles individuals in the recommended management structure would play are described in the section which follows. Numbering is keyed to Figure 1.

1. Advisory Board. The Advisory Board consists of the legal representatives of the Protocooperative. The functions of

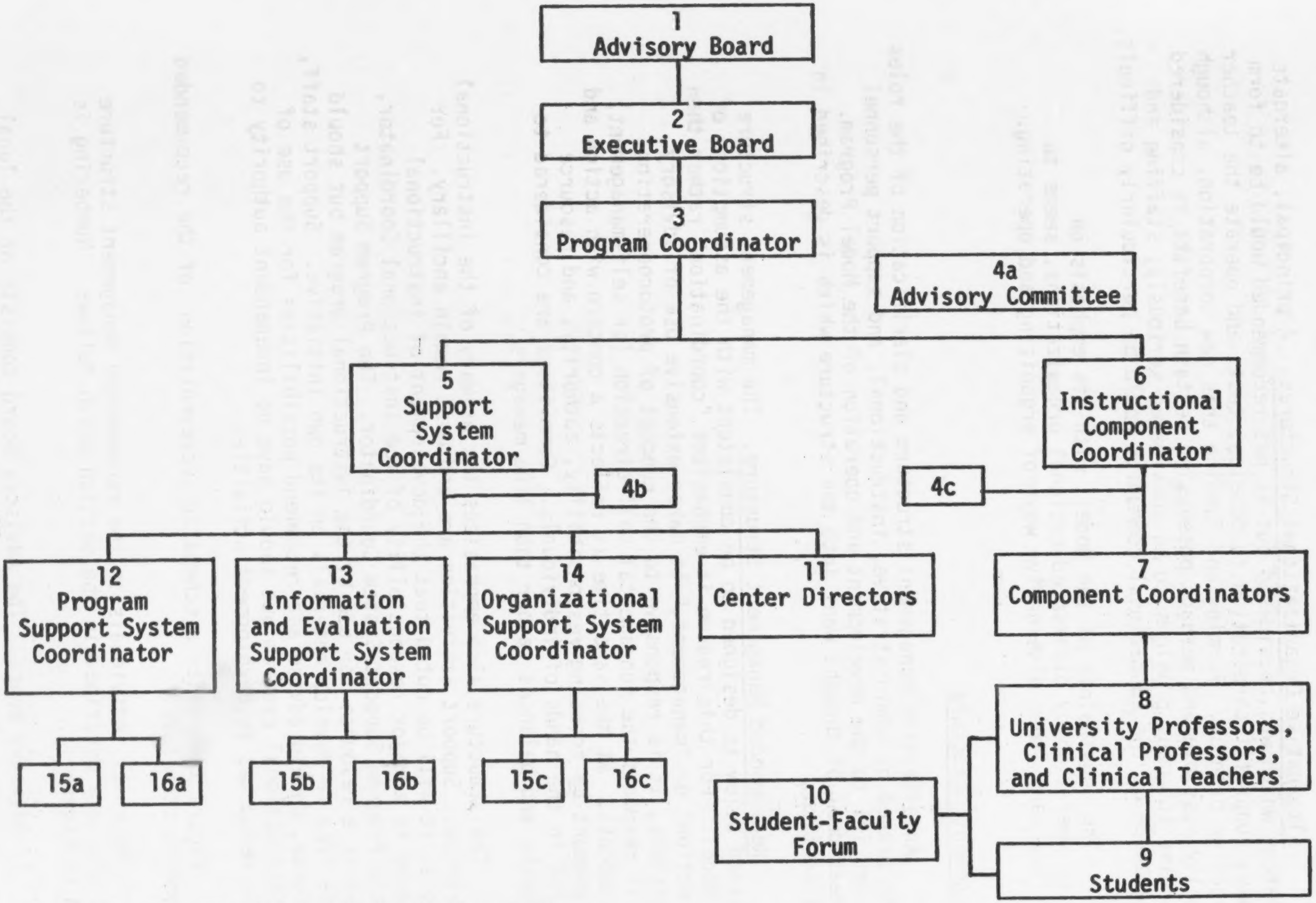

1
Advisory Board
2
Executive Board
3
Program Coordinator
4a
Advisory Committee
5
Support System Coordinator
4b
6
Instructional Component Coordinator
4c
12
Program Support System Coordinator
13
Information and Evaluation Support System Coordinator
14
Organizational Support System Coordinator
11
Center Directors
7
Component Coordinators
8
University Professors, Clinical Professors, and Clinical Teachers
15a
16a
15b
16b
15c
16c
10
Student-Faculty Forum
9
Students

Figure 1. Recommended management structure.

the Board are to make all major policy decisions and give advice and approval to major personnel, facility, and budget decisions of the Executive Board.

The Advisory Board will determine the processes by which its decisions are made. It seems appropriate to the philosophy of the Protocooperative for the Board to make decisions on various matters using a variety of procedures including majority rule and consensus.

2. Executive Board. The Executive Board is composed of one representative from each of the institutions in the Protocooperative and one student representative from each of the three student classes. The Board is responsible for the development and operation of the Model Program and is directly responsible to the Advisory Board. The area in which the Executive Board can make decisions will be determined by the Advisory Board. Consistent with Advisory Board procedures, the Executive Board will determine the processes by which its own decisions are made.

3. Program Coordinator.[1] The Program Coordinator is responsible for the day-to-day, overall program development, evaluation, and operation. He makes personnel and budget allocations and major facility and equipment authorizations. The Program Coordinator is directly responsible to the Executive Board and he functions primarily to implement decisions made by the Executive Board. The Program Coordinator serves as Chairman of the Executive Board. The Program Coordinator receives assistance from the Program Advisory Committee (4a).

4. Advisory Committees. Three advisory committees advise certain of the coordinators and participate in the making of decisions and evaluation at various levels as indicated in Figure 1. These three groups are: (4a) the Program Advisory Committee, (4b) the Support System Advisory Committee, and (4c) the Instructional Component Advisory Committee.

5. Support System Coordinator. The Support System Coordinator is responsible for the development, evaluation, and operation of the Program, Information and Evaluation, and Organizational Support Systems, the Facilitation Center, and the Tutoring-Microteaching, Teaching, and Resident Centers as specified

---

[1] The term "coordinators" as used in this section is used to denote those who are "democratic managers" with responsibilities, resources, skills and authority for moving effectively toward program goals by means of group activities, basically supported by group agreement.

in the Model; he also serves as Director of the Facilitation Center. The Support System Coordinator receives assistance from the Support System Advisory Committee (4b) and is responsible to the Program Coordinator (3).

6. Instructional Component Coordinator. The Instructional Component Coordinator is responsible for the development, evaluation, and operation of the seven components, personnel and budget allocations to components, instructional program evaluation, planning and modification, decisions as to eligibility of students for graduation, and the assignment of selected development tasks to the Program Support System (11). The Instructional Component Coordinator receives assistance from the Instructional Advisory Committee (4c) and is responsible to the Program Coordinator (3).

7. Component Coordinators. Each of the seven component coordinators is responsible for the development, evaluation, and operation of one of the seven instructional components; such responsibilities include personnel selection, staff development, and budget management.

8. University Professors, Clinical Professors, and Clinical Teachers. The university professors, clinical professors, and clinical teachers are responsible for the conduct of instruction on campus and in the field, module operation and revision, and decisions involving instruction. They shall contribute to other decisions through memberships on advisory committees and one of the other decision-making groups.

9. Students. As self-directed learners, students shall decide on individual goals and means within the constraints of the Model. They shall contribute to other decisions through representation on advisory committees, the Advisory Board, and Executive Board. Students may be compensated for work performed as a part of Support System activities.

10. Student-Faculty Forum. The Student-Faculty Forum is a mechanism through which students and faculty may work together to find solutions to problems relating to the program. The Forum would meet at the request of a student or faculty member and would focus on the specific issue at hand. Membership would involve the principals concerned with the problems and such other students and faculty as they would designate or who would volunteer.

11. Center Directors. Center Directors coordinate the development and operation of the tutoring and microteaching centers, the teaching centers, and the resident centers as

specified by the Model. Each has coordinating responsibilities for field instructional activities conducted in his center by university professors, clinical professors, and clinical teachers.

12. Program Support System Coordinator. The Program Support System Coordinator is responsible for the development, evaluation, and production of instructional modules, materials, equipment, and facilities as requested by the Instructional Component Coordinator; he makes no independent decisions regarding instructional needs but provides support when it is requested. The Coordinator is able to draw on the Support System Advisory Committee (4b), his staff (15a), and consultants and suppliers (16a) for assistance as appropriate. Balance between in-house staff and external suppliers will vary from time to time with varying requirements. He should have a small, permanent staff, directly employed by the Protocooperative, with modest production facilities which make maximum use of student services. Outside suppliers will be encouraged to develop software and hardware at their own risk for eventual sale to this and other programs. When necessary and feasible, outside suppliers could be paid to develop hardware and software required. A small number of developers and suppliers representing educational laboratories and the education industry will be members of the Protocooperative and, as such, could have special roles in development, evaluation production, and marketing of program materials. These special roles will be defined by contract requiring periodic renewal and will be concerned with effectively managing the development and acquisition of needed materials not available within the program. Comparatively long-term effects will be considered so that developments can be undertaken for probable use two or three years in the future. Developments more than two to three years in the future will be considered outside of the explicit scope of the program.

13. Information and Evaluation Support System Coordinator. The Information and Evaluation Support System Coordinator has responsibility for the development, evaluation, production, and operation of the information and evaluation instruments and systems as required by the Model. All needs for information exchange, evaluation, and feedback within the program as well as information for export outside of the program are his responsibility. Public relations, visibility, growth, and documentation will be important aspects of his role. The Coordinator may call on the Support System Advisory Committee (4b), his staff (15b), and consultants and suppliers (16b) for assistance as appropriate. In engaging consultants and suppliers, he

shall follow procedures similar to those described for the Program Support System Coordinator.

14. Organizational Support System Coordinator. The Organizational Support System Coordinator has responsibility for development, evaluation, and operation of the organizational support system as required by the Model, including student admissions and placement, staff recruitment, development, and assignment, administrative and business management, student scholarships and fellowships, and compensation for student services. The coordinator may call on the Support System Advisory Committee (4b), his staff (15c), and consultants and suppliers (16c) for assistance as appropriate. Inservice staff development and management planning are his most crucial concerns. In engaging consultants and suppliers, he shall follow the procedures as described earlier.

15. Staff. Staff personnel shall assist the various coordinators as appropriate. Staff personnel would include faculty facilitators, counselor-advisors, media specialists, librarians, liaison persons, statisticians, and graduate assistants as appropriate.

16. Consultants and Suppliers. Consultants and suppliers shall provide such services and materials as required by the Model and specified by the appropriate coordinator.

Alternative Management Structures. Within the general framework which is strongly suggested by the assumptions of the Model, a number of alternatives are possible. A few of the more attractive of these which were considered are described in this section.

1. Management Span Alternatives. The "management span" between the Program Coordinator and the Component Coordinator, the Program Support System Coordinator, the Information and Evaluation Support System Coordinator, the Organizational Support System Coordinator, and the Center Directors may be too great. This pattern could be altered in any of several ways; however, such changes would most probably be changes in specifications rather than in strategy.

2. Planning and Evaluation Alternatives. The recommended structure makes each coordinator responsible for his own planning and evaluation with support and advice from others. This is consistent with the commitment of the Model to intent-action-feedback. An alternative would be to set up a separate planning and evaluation unit.

3. Development and Production Staff Alternatives. Small permanent staffs are recommended for the three support systems, supplemented by outside services and resources as needed. This balance should be shifted in either

direction so as to increase or decrease the degree of reliance on persons directly employed by the Protocooperative.

Other management structures are far too many to describe here. In any event, those considering adoption or adaptation of the Model should give great thought to the management system selected as this will be most crucial to the successful development and operation of such a program.

Implementation Schedule

A program which is as complex as that proposed by the Model requires a great deal of careful planning. A number of alternative implementation schedules seemed reasonable in light of the assumptions of the Model, the recommended organizational structure, and the management structure. This section of the chapter details the recommended implementation schedule and very briefly describes two other alternatives.

Recommended Implementation Schedule. The recommended implementation schedule is illustrated in Figure 2 on the following page. This schedule refers to four stages of implementation activities:

1. Development. The development stage involves the planning, staff development, and the preparation of curricular materials, evaluation instruments, and facilities.
2. Developmental Evaluation. The developmental evaluation stage involves the testing of particular program instructional components with instructional staff and students; as a part of this process, feedback data are generated for refinement purposes.
3. Developmental Operation. The developmental operation stage involves the second testing of particular program instructional components with instructional staff and students; as a part of this process, feedback data are again generated for further refinement purposes.
4. Operation. The operation stage involves total implementation of the program as prescribed by the Model with further refinement and development continuing in a more limited but ongoing fashion.

As shown in Fugure 2, it is recommended that the Model be first planned and developed at three program levels simultaneously: (1) the Freshman year, the first year of the arts and science program, (2) the Junior Pre-Professional year, and (3) the Resident year, a graduate year internship. During the second year of implementation,

Implementation Stage	Year of Implementation					
	First	Second	Third	Fourth	Fifth	Sixth
Development	A C E S	B D	A C E	B D	A B C D E	
Developmental Evaluation		A C E	B D			
Developmental Operation			A C E	B D		
Operation	S	S	S	A C E S	A B C D E S	A B C D E S

A: Freshman Year
B: Sophomore Year
C: Junior Pre-Professional Year
D: Senior Professional Year
E: Resident Year
S: Support Systems

Figure 2. Recommended implementation schedule.

the remaining two program levels will be planned and developed: (1) the Sophomore year, the second year of the arts and science program, and (2) the Senior Professional year; at this same time the other three program levels are evaluated under actual conditions. Each of the following three years will be devoted to continued development, evaluation, and operation. The final outcome of the implementation effort will be a fully operational, self-supporting elementary teacher education program.

In addition to this schedule, it is recommended that the sequence for phasing in components be based on the following criteria: (1) critical to the program or easily accomplished, (2) important to the program or somewhat difficult to accomplish, and (3) peripheral to the program or very difficult to accomplish.

In the early development stages it is vital that planning be stressed and early components be well done. An attempt to skimp on management overhead and development funds and resources at this time could have a most negative long-range effect. It is also essential during the very early stages of development that the support systems become fully operational. The implications of this are to establish the recruiting and, at least, support systems staff development programs at the earliest possible date.

Of equal importance is the notion that those involved in the development of the program must not perceive their products as being "finished." They must respond to the feedback provided through continuous evaluation. In short, they must be willing to "go back to the drawing board" as the data dictate.

There are many reasons for this recommendation, but the primary reasons were that it provides for:

1. Total operation of the Model more quickly.
2. More immediate involvement of all Protocooperative institutions.
3. Impact on the Freshman, Junior, and Resident years which call for unique instructional activities with the Model Program.
4. Feedback from more levels of the program sooner and thus more thorough evaluation.
5. Less chance for redundant development.
6. Feedback from fifth year which allows for better development of preceding year program and materials.

Alternative Implementation Schedules: A number of other implementation schedules were considered prior to the recommendation of the selected alternative. The two alternatives given greatest attention were schedules which called for: (1) initial efforts dealing with the Freshman program only with an implementation strategy based on the development of the Sophomore year program during the second year, the Junior year program during the third year, and so on, and (2) initial efforts dealing with the Freshman and Junior year programs only with an implementation strategy based on the development of the Sophomore and Senior year programs during the second year and the Resident year program during the third year.

The major advantage of these two alternatives was the lack of time pressure for the development of quantities of program materials, facilities, and staff. This advantage was decided to be not as critical as some of the advantages listed under the recommended alternative. The most obvious disadvantage was the lack of time they would provide for evaluation and refinement.

Staff Recruitment and Development

A program which calls for the kinds of faculty involvement as prescribed by the Model demands a faculty with attitudes and behaviors quite different in many ways from those of traditional programs. Therefore, careful thought had to be given to the problems of staff recruitment and staff development strategies.

Policy decisions regarding staff recruitment and staff development were contingent upon decisions made regarding management structure, curricula, materials and facilities, and implementation schedules greatly influenced policies regarding staffing. For example, regardless of which alternative is selected by an adopter, it is clear that some policy must be set in order to administer the chosen alternative. Specifically, how an adopter might administer a staffing alternative is a critical question. Indeed, it is a question that remains to be resolved in the specifications for management structure. Hence, the following alternatives are limited in scope and jurisdiction in that no explication of policy measures directing the execution of one or any of the possibilities is given.

Recommended Staff Recruitment and Development Policies. Policy decisions regarding recruitment and decisions will be made by the Advisory Board in a way to conform to other policies regarding the management structure, the implementation schedule, and other factors. The recommendations given below represent one approach which appears appropriate to the management structure proposed above.

Responsibility for staff recruitment and decisions shall rest with the Organizational Support System Coordinator with specifications and appointment to be approved by the Executive Board. Candidates for Protocooperative positions will be considered from all possible sources, both within and outside of Protocooperative member organizations. For example, it seems proper for a local school district to propose a member of its own staff for the position of Center Director and, where appropriate, that this appointment be approved by the Executive Board. Candidates for staff positions can and should be proposed by all members of the Protocooperative. The procedure will be for these suggestions to be given to the Organizational Support System Coordinator who has responsibility for obtaining background data on candidates and submitting recommendations and supporting evidence to the Executive Board for final decisions.

The procedures for the removal of an individual from a position or the discontinuance of a service would be similar to those for placing an individual. Recommendations may be made by a person or organization. Supporting data would be collected and organized by the Organizational Support System Coordinator and forwarded to the Executive Board for decision.

The minimum competencies required for each position within the program, including all coordinators and committee members, shall be determined by the Program Coordinator and approved by the Executive Board. Staff development programs for all staff positions shall be developed and conducted by the Organizational Support System Coordinator, using the most appropriate persons as instructors and consultants so that staff members may acquire the needed attitudes and competencies. By giving the Organizational Support System Coordinator responsibility for both recruitment and development activities, it is anticipated that each candidate would be considered on the basis of his current competencies and the development activities needed to help him acquire any additional position requirements.

The above recommendation was based on the critical importance of staff development which is necessary for the acquisition of the large number of unusual skills required in order for the Protocooperative and the teacher education program to achieve its goals. The challenge will be to conduct a staff development function that will: (1) assure the acquisition of the needed competencies, and (2) develop the required knowledge, skills, and attitudes in a way that is consistent with the educational philosophy of the Model. Staff development programs may be critical in providing an example of ways in which many individuals and organizations can work together. Only in operation can the notion of protocooperation be given an adequate test.

Alternative Staff Recruitment and Development Policies. Alternative procedures were considered, including the possibility that each coordinator have authority to recruit and train those persons responsible to him as indicated by the management structure. His decision could be final or could be contingent upon approval of the Executive Board. This, and similar proposals, were passed over in favor of a procedure which: (1) places all ultimate authority in the Executive Board where each Protocooperative member has equal representation, and (2) assigns responsibility for seeking and processing candidates and for providing supporting evidence in a way to assure that recruitment be conducted in a competent and professional manner.

Student Recruitment

Student recruitment and selection is another issue which will be important to the success of the program. Consideration of this issue was done within the framework of the assumptions and goals of the Model. The emphasis which the Model places on the student as a self-directed learner within a competency-based curriculum provided an interesting framework.

Recommended Student Recruitment Strategy. Responsibility for student recruitment and selection will be assigned to the Organizational Support System Coordinator, who will follow procedures and use criteria established by the Advisory Board and Executive Board. At least initially, student candidates for the program will be invited to enter the program from a wide range of sources with the only restrictions being those very minimal levels of academic achievement set by the Advisory Board. Because the program is competency-based, it is felt that all who express a desire to enter the program and successfully complete the Freshman and Sophomore years should be admitted and given the opportunity to succeed or fail on the basis of their performance in the program. Admission to the program should not, therefore, be denied those who fail to meet the usual grade-point criteria. However, extensive data will be collected from all candidates so as to provide information to be used in a number of ways, including long-term research dealing with a full range of variables which may prove useful in predicting success in various aspects of the program.

This recommendation seems to best fit the notions of the competency-based curriculum and intent-action-feedback while dealing with the reality of the situation. The strategy also has the advantages gained from admittance of a wide variety of students in order to allow empirical determination of the characteristics of students who tend to perform best in this type of program.

Alternative Student Recruitment Strategies. Possible alternatives ranged from the admittance of any person who completed the application forms to the careful screening of applicants based on factors assumed to be related to the type of performance required to succeed in the program. The procedure recommended above was chosen to minimize the initial change in criteria by keeping the criteria, at least in the initial stages of implementation, close to what they are at present while meeting the conditions prescribed by the Model. Admittance of all who apply might lead to an unusual number of failures. On the other hand, solid evidence suggesting strictly applied criteria do not exist. The program emphasis in this regard, therefore, should be careful monitoring of student progress and effective guidance.

2

Curriculum, Facilities, and Materials

The Phase I final report and the next chapter of this report rather carefully describe the curriculum, facilities, and materials prescribed by the Model. A number of issues, however, seemed important enough to receive additional emphasis here.

Curriculum. The curriculum content will remain as open and flexible, within the constraints of the Model, as possible. To achieve this degree of openness, all information on the content and philosophy of the Syracuse Model, all other models currently under study, and recent developments in education will be available to students, staff, and Protocooperative members to encourage suggestions for continuous modification and improvement. This active participation in examining and improving the educational program in which they are engaged will achieve several desirable results:

1. The students will experience the educational environment they will be urged to establish when they, themselves, will be teachers; i.e., it will help them teach as they have been taught.
2. Students and staff will provide data on the resources actually needed to achieve the desired objectives of the separate modules and experiences designed into the program.
3. Students, staff, and Protocooperative members will all participate in evaluating the effectiveness of all aspects of the program.

Curriculum revisions will be made in several ways. Minor adaptations of experiences for individual students may be made by the staff member most closely involved with the experience and the participating students. This type of revision will then be communicated to the Program Support System Coordinator for verification and possible permanent inclusion in the repertoire of experiences available. Recommendations for more radical changes in parts of the program may be initiated by any student, staff member, or Protocooperative member; recommendations will be considered by the Program Support System Coordinator who will propose design changes and, upon the approval of the relevant committees, proceed to implement these changes.

Alternatives to this kind of openness and willingness to consider recommendations for change from any source were considered but were rejected as being opposed to the basic philosophy of the Model.

Although some areas of the curriculum will require the student to follow a developmental, sequential path through the prescribed experiences, there will be at least three other characteristics of the program which will tend to counteract this apparent rigidity:

1. Each experience will provide flexibility to the way in which the student can work to achieve the objectives of the experience; for example, he may choose between reading particular content material or viewing a film which describes and illustrates that same content.
2. Those portions of the program which are not sequentially dependent upon other experiences will be designed to be "self-standing" experiences and may be taken at any time, at the discretion of the student.
3. A majority of the modules provide opportunities for the student to "test out" certain of the required activities.

Provision will also be made, within the program design, for students to select relevant courses and experiences offered at other locations and other institutions. The student should be encouraged to use the full resources of the community. For example, a student working with pupils in a tutorial setting may become concerned about the physical design of independent study areas and may choose to take work in architecture or the psychology of learning. In cases where the needs of the student do not warrant the taking of an entire course outside of the specified program, a special independent study "mini-course" may be designed by the student and staff to provide access to the desired information, without disrupting the content of other modules or the progress of the student.

Facilities. While higher priorities should be assigned to personnel and program, the need for adequate physical facilities should not be neglected. The clinical centers must have adequate space for student operation, including not only the work with the pupils but also for the education of the students themselves. Since the clinical centers are supported by local taxpayers for the purpose of pupil education, it should not be the expectation of the Protocooperative to use these without reimbursement to the public schools in which the centers are located. Two avenues may be followed: (1) the Protocooperative could use existing facilities on a leased basis as the space is available, or (2) adequate mobile facilities could be provided to house the entire clinic activity of the Protocooperative. In any event, adequate facilities should eventually become available for both pre-service and inservice activities.

The same policy should be extended to nonclinic Protocooperative facilities utilized. If space is needed for developmental purposes other than as included in overhead, this space will be leased by the Protocooperative. At Syracuse University space usually provided for the education of elementary teachers will, of course, be used without reimbursement.

During the initial developmental stage, learning space designs will be studied further to determine the layout which best fits the needs of the program. A facilitation center, study carrels, testing stations, lecture rooms, seminar rooms, and small group rooms will be provided at the University. Much regarding the facilities necessary is presented in the next chapter.

Materials. One should not underestimate the major role instructional materials will play in the program. The number, variety, and cost of these become more clearly understood with an examination of Chapters IV and V. Only a few major points need be emphasized here:

1. All materials should be of the highest quality and reflect the best thinking regarding learning and the media.
2. Program personnel must conceive of materials as being open to continuous modification and improvement, not "finished products" which are inviolate.
3. The materials are intended to serve student needs; they are means, not ends.
4. Materials should be used in personalized, humanizing ways.
5. Student time is the critical resource.

Summary

This chapter has presented the present thinking of the Protocooperative with regard to several of the major issues confronting those who would implement the Model. Certainly all questions have not been answered; indeed, all have not been asked. The hope is, however, that these ideas will provide the Protocooperative with a foundation as it moves toward implementation. Others faced with similar problems may need to do much rethinking of the issue, but perhaps their task will be made easier because of the work which is presented here.

CHAPTER IV

SPECIFICATIONS OF THE MODEL

The Specifications Task Force

This chapter details the personnel, materials, and facilities required for the development and operation of the Model. This work is the product of the Specifications Task Force, a task force composed of two groups: (1) the Personnel Work Group which was most centrally concerned with program personnel requirements, and (2) the Facilities and Materials Work Group which focused on program facilities and materials requirements. The persons thus involved included:

Task Force Leader:
DeLayne R. Hudspeth (Syracuse University)

Personnel Work Group Leader:
Hanford A. Salmon (Syracuse City School District)

Personnel Work Group Staff:
Mary Durkee (Syracuse City School District)
Allan S. Hartman (Eastern Regional Institute for Education)
Ernest J. Leal (Syracuse City School District)
John J. Readling (Educational Cultural Center Serving Onondaga and Oswego Counties)

Facilities and Materials Work Group Leader:
Donald E. Rielle (Canastota Central Schools)

Facilities and Materials Work Group Staff:
James B. Andrews (Syracuse University)
Charles Foster (Niskayuna Central School District)
Michael L. Jacobs (System Development Corporation)
Robert P. Jubinville (Jamesville-Dewitt Central Schools)
Donald L. Stanistreet (Syracuse City School District)

The Specifications Task

The tasks of the work groups were to generate data regarding the personnel, facilities, and materials necessary for implementation of the Model program. This process involved the identification of requirements specified by the refined Model and by the recommended organizational and management strategies, an examination of the alternatives which would satisfy those requirements, and the selection of those alternatives which seemed most appropriate. In making these selections, student time was considered to be the crucial resource--that resource which had very real limits regardless of the other resources available. Therefore, every effort was made to specify requirements so as to accommodate the student as he moves through the program.

The specific tasks of the Personnel Work Group and the Facilities and Materials Work Group were as follows:

1. Careful examination of the Phase I final report, the refined Model, and the outputs of the Implementation Strategies Task Force so as to identify the categories of personnel, facilities, and materials needs explicitly or implicitly prescribed. Definitions of these categories are provided later in this chapter.

2. A description of each of the eighty-three instructional modules with regard to the categories of personnel, facilities, and materials used; time usages were assigned to each category for each module. These module specifications provided a basis for the examination of support system needs and are presented in this chapter in tabular form.

3. A simulation of students (approximately 100 Freshmen, 100 Sophomores, 100 Juniors, 100 Seniors and 60 Residents) moving through the program; the results yielded a series of possible pathways students might select; several of these individual student program formats are presented in this section of the report.

4. Examination of the module specifications and the simulated student program formats was made and this yielded information regarding the maximum usage periods for each of the required resources; this information permitted decisions regarding the quantity of each resource required for effective operation of the program; it also allowed for the determination of the reasonableness of the requirements made of students.

5. Specification of the types and quantities of resources necessary for program operation based on the most attractive alternatives available; these specifications were rather carefully detailed so that costing could be as accurate as possible.

The above description of the specifications task connotes a rather logical, objective, sequential process. In many ways, however, the procedures called for a great many subjective decisions calling for the best judgments of persons with experience and imagination. The situational context of the Protocooperative was a major influence. Clear-cut, straight-forward answers were rare; discussion of the pros and cons of various alternatives and arguments about various possibilities was more common. Those who would attempt this task should expect this as a realistic part of process--indeed, a healthy, profitable experience.

The outputs detailed in this chapter facilitated costing. They also provide a foundation for development activities. However, greater specification will come with actual development, testing, and refinement and what is reported here should be seen as a first generation effort which--though in many ways speculative--is useful.

Specification Categories

The following are personnel, facilities, and materials resource categories seen as being required by the instructional modules described in the Model. A brief description of each category is presented.

Within each module are many learning activities in which the student will be engaged. A chart of the type of activity (testing--pre and post, seminar meeting, small group meeting, independent study, field work, and remediation work) was constructed as an aid in illustrating the kinds of activities within each module.

Pre-testing and post-testing. The pre-test is an activity designed to measure a student's readiness, strengths, and weaknesses as determined by the objectives of each module. Such measurement provides an evaluation that enables the student to: (1) proceed through the module, (2) engage in remediation prerequisite to the module, (3) proceed through only part of the module, or (4) advance to the post-test. The post-test is an activity designed to measure a student's achievement level in light of the objectives of the module. This measurement is an evaluative device determining whether the student should: (1) proceed to the pre-test of another module, or (2) engage in remediation.

Seminar meeting. A seminar meeting is a learning activity engaged in by a group of nine to sixteen students as specified in the module.

Small group meeting. A small group meeting is a learning activity engaged in by a group of two to five students as specified in the module.

Independent study. Independent study is a learning activity engaged in by one student as specified in the module.

Field work: tutoring. Field work: tutoring is a learning activity in which the student works with a pupil and/or a small group of pupils in public school field centers (or other setting) as specified in the module.

Field work: teaching. Field work: teaching is a learning activity in which the student teaches pupils in a public school classroom as specified in the module.

Field work: nonteaching. Field work: nonteaching are learning activities which include the nontutorial and nonteaching work in the field as specified in the module; such activities include: (1) observing teachers, (2) observing administrative operations, (3) developing lesson plans, (4) attending faculty and departmental meetings, and (5) participating in video and audio taping sessions.

Remediation. Remediation refers to a conference held between a student who has not met the expected achievement level as specified by the objectives of the module and his faculty advisor. Remediation work may be assigned. This might include a set of learning activities designed by the student and his advisor or it might be a recycling through all or part of the module.

Facilitation center. The facilitation center is a particular area containing many of the learning spaces as specified in the module; these spaces are defined by function and include: (1) faculty office spaces, (2) student record storage spaces, (3) library, (4) production facilities, (5) testing facilities, (6) media hardware and software storage spaces, (7) seminar and small group rooms, and (8) study carrels.

Field center. Field centers are of three types: (1) a tutorial and microteaching center is a public school facility in which the student either microteaches or tutors (usually during the Freshman, Sophomore, and Junior year) as specified in the module, (2) a teaching center is a public school facility in which the student teaches a class (usually during the senior year) as specified in the module, and (3) a resident center is a public school facility in which the fifth year resident teaching activities take place.

Instructional Faculty. There are three types of instructional faculty having contact with the students on a scheduled basis: (1) the university professor, (2) the clinical professor, and (3) the clinical teacher. Within each module primary responsibility for student progress is assigned to a faculty member who is designated as the instructor of the module.

Faculty: university professor. A university professor is a university-based instructional person whose responsibilities include, among other things, teaching and counseling as specified by the module.

Faculty: clinical professor. A clinical professor is a field-based instructional person whose responsibilities include, among other things, teaching, supervision, and counseling in one or more of four major content areas: (1) measurement, (2) instructional materials, (3) instruction, and (4) curriculum and methods as specified by the module.

Faculty: clinical teacher. A clinical teacher is a field-based person whose responsibilities include, among other things, teaching and counseling as specified by the module.

Learning spaces. Each activity within a module determines the type and size of space required to complete that activity. As a result, four types of learning spaces will be pre-scheduled: (1) study carrels, (2) small group rooms, (3) seminar rooms, and (4) testing stations. Because of the use of mediated instruction, learning spaces differ with regard to media capacities; and because of the use of groups of various sizes, learning spaces differ with regard to size.

Study Carrels. A study carrel is one of a variety of single-person work spaces at the university in which "independent study" activities are carried out by the student as specified in the module.

Study carrel A. Study carrel A contains an 8mm sound projector, 2x2 slide projector, projection screen, cassette audio tape recorder, headphones, closed circuit television, a desk lamp, work surface, and a chair.

Study carrel B. Study carrel B contains a desk lamp, work surface, and a chair.

Study carrel C contains a desk lamp, work surface, and a computer terminal.

Small Group Rooms. A small group room is one of a variety of university rooms, approximately 16 x 18 feet in size, in which "small group meetings" of two to five students are carried out on a pre-scheduled basis as specified in the module.

Small group room A. Small group room A contains complete media capabilities (audio tape recorders, videotape recorder and receivers; 16mm, 8mm, 2x2 slide, and overhead projectors, and projection screen), tables and chairs for six people, cork board, chalk board, drapes, and carpeting.

Small group room B. Small group room B contains tables and chairs for six people, a cassette audio tape recorder, cork board, chalk board, drapes, and carpeting.

Seminar Rooms. A seminar room is one of a variety of university rooms, approximately 16 x 24 feet in size, in which "seminar meetings" of nine to sixteen students are carried out on a pre-scheduled basis as specified in the module.

Seminar room A. Seminar room A contains complete media capabilities (audio tape recorders, videotape recorder and receivers; 16mm, 8mm, 2x2 slide and overhead projectors; and projection screen), tables and chairs for seventeen people, cork board, chalk board, drapes, and carpeting.

Seminar room B. Seminar room B contains tables and chairs for seventeen people, a cassette audio tape recorder, cork board, chalk board, drapes, and carpeting.

Testing Stations. A testing station is one of a variety of "security" areas in which the student works through pre-testing and post-testing activities as specified in the module.

Testing station A. Testing station A contains a computer terminal, 8mm sound projector, 2x2 slide projector, projection screen, cassette audio tape recorder, headphones, closed circuit television, a desk lamp, work surface, and a chair.

Testing station B. Testing station B contains a computer terminal, a desk lamp, work surface, and a chair.

Testing station C. Testing station C contains a desk lamp, work surface, and a chair.

Equipment and Materials. Instructional activities within the modules determine what will be required in terms of software. Some of these materials are available commercially while other material will be produced. The level of difficulty in producing noncommercial materials is indicated by a rating index ranging from 1 to 5, with 1 being the least difficult to produce and 5 the most difficult. Such noncommercial materials might include certain films, books, instruction packets, information packets, typed scripts, case studies, slides, audio tapes, and programmed instruction materials.

16mm Film. 16mm film refers to a learning activity in which the student views locally produced film segments of varying lengths as specified in the module.

16mm film A. 16mm film A refers to the viewing of locally produced film which is 40 or more minutes in duration.

16mm film B. 16mm film B refers to the viewing of locally produced film which is 30 to 39 minutes in duration.

16mm film C. 16mm film C refers to the viewing of locally produced film which is 20 to 29 minutes in duration.

16mm film D. 16mm film D refers to the viewing of locally produced film which is 10-19 minutes in duration.

16mm film commercial. 16mm film commercial refers to a learning activity in which the student uses a film that is not produced by a local film production unit.

Audio tape. Audio tape refers to a learning activity in which the student listens to a pre-recorded audio tape lasting approximately thirty minutes as specified in the module.

2x2 slides. 2x2 slides refers to a learning activity in which the student views a set of 80 slides.

Programmed instruction. Programmed instruction refers to a learning activity in which the student uses programmed materials. The materials may be mediated.

Instructional packet. Instructional packet refers to a learning activity in which the student uses a group of materials that direct him to perform certain tasks related to the topic of the module. Such tasks would include viewing films, making observations, codifying data, replicating experiments, interviewing, reporting formats, graphing, and theorizing.

Information packet. Information packet refers to a learning activity in which the student uses a group of materials that contain descriptions or information related to the topic of the module. Such information would include concept descriptions, techniques for doing certain tasks, synopses of theories, bibliographic data, and role descriptions for role-playing situations.

Program packet. Program packet refers to a learning activity in which the student uses a group of materials that contain background information, real or imaginary, related to the topic of the module. Such information would include work sheets, test manuals, evaluation booklets, diagnostic devices, viewing and evaluating film, preparation of behavioral objectives, problem statements, graph work, pupil demographic data, lesson plans, and lists of resource materials.

Case study. Case study refers to a learning activity in which the student uses a written history of an incident recording a pupil's experience or a school situation, all related to the topic of a module.

Typed script. Typed script refers to a learning activity in which the student uses a transcribed student-teacher interaction related to the topic of a module.

Simulation. Simulation refers to a learning activity in which the student can observe, make a decision, react, and observe a unique outcome based upon his decision. This is usually accomplished through the use of mediation devices such as film or videotape.

Books and paperbacks. Books and paperbacks refers to a learning activity in which the student uses reading materials not produced within the program related to the topic. These books will be available at the library or may be purchased.

The activities of the module determine what equipment is required to fulfill that activity. The following kinds of equipment are used within the course of the program's modules.

Television receiver. Television receiver refers to a learning activity that requires the student to view a televised picture. Receivers are of two sizes: (1) refers to the use of a receiver 10 to 12 inches in diameter in small areas such as carrels and testing stations, and (2) refers to the use of a receiver 23 inches in diameter in large areas such as seminar rooms and lecture halls.

Videotape recorder. Videotape recorder refers to a learning activity in which the student is required to produce his own videotape. All videotape recorders used by students will be 1/2-inch videotape recorders.

Cassette audio tape recorder. Cassette audio recorder refers to a learning activity in which the student uses a small, portable tape recorder as specified in the module.

Module Specifications

The tables which follow contain great detail about the personnel, facilities, and materials specified for each of the instructional modules of the Model. Module and page designations refer to the Phase I final report. Resource usage for each instructional activity is indicated in terms of the estimated number of "chronules" (periods of time twenty minutes in duration). Time estimates are based on an approximation of the time the "average" student might take a particular experience. All descriptions are based on projections calling for the yearly graduation of 100 students. The number of "sections" indicates the number of different groupings of students who as a group work through the module; for example, in those cases where a module calls for five students to work together twenty sections are necessary and where a module calls for independent study 100 sections are necessary. The "number of groups" refers to the number of groupings of students within a section, while "size of group" refers to the number of students within a group. If fifteen students constitute a section and they are all working together, the number of groups is 1 and the size of the group is 15; if they were to split into three groups of five students for a particular activity, the number of groups is 3 and the size is 5.

The instructional materials which were specified for each module were classified according to four dimensions:

1. Type. The type of media was identified as to its general class--film, for example--and specific type--16mm, sound, color, for example.

2. Length or number as appropriate. Certain of the media were identified as to length--a twenty-minute audio tape, for example; other media were classified as to number--80 slides in a presentation, for example.

3. Titles. Software was further identified as to the number of titles of a specific topic that should be available to the student. A student wishing to focus on the behavior of nursery school pupils would be exposed to different filmed sequences than a student who wishes to observe the behavior of middle school pupils; this requires at least two different films--and perhaps more--which would be used for similar purposes, indeed for the same module learning activity but for different students.

4. Production difficulty level. Materials were rated as to the difficulty that would be involved in their production. Ratings were done on a scale from 1 to 5 with 1 being very easy to produce and 5 being very difficult to produce. These ratings were most useful in the determination of production costs.

The module specification tables contain indications as to all four of these dimensions. The various media are listed; definitions contain specifications as to type, length, and purpose. The number of titles and the difficulty level are also indicated with the number of titles appearing as the "numerator" and the difficulty level as the "denominator" in a fraction-like notation at the appropriate learning activity and material designation.

Equipment usage is not indicated on the module specification tables except where the student has a special need to use equipment in other than a Facilitation Center or a field center setting. Learning spaces--seminar rooms, small group rooms, study carrels, and so forth--are assumed to contain hardware as noted in the earlier descriptions of the facilities.

Each student will be given a cassette tape recorder with three tapes and one-half hour, one-half-inch videotape upon entrance into the program. These will be the student's to use throughout his involvement in the program. These materials and equipment are not noted on the specifications tables.

Table 1

Specifications for Module CM-1.1 (pages 104 through 105)

	Activities				
Categories	1	2	3	4	T
Running Total Time	2	14	16	19	19
Chronule	2	12	2	3	
Number of Groups	1	1	1	1	
Number of Sections	100	100	100	100	
Size of Group	1	1	1	1	
Pre or Post Testing	2		2		4
Seminar Meeting					
Small Group Meeting					
Independent Study		12			12
Field Work: Tutoring					
Field Work: Teaching					
Field Work: Nonteaching					
Remediation				3	3
Facilitation Center	2		2		4
Field Center					
Faculty: Univ. Prof.				1	1
Faculty: Clin. Prof.					
Faculty: Clin. Teacher					
Study Carrel A					
Study Carrel B					
Study Carrel C					
Small Group Room A					
Small Group Room B					

Table 1 (Continued)

Categories	Activities 1	2	3	4	T
Seminar Room A					
Seminar Room B					
Testing Station A	2		2		4
Testing Station B					
Testing Station C					
16mm Film A					
16mm Film B					
16mm Film C					
16mm Film D					
16mm Film Commercial					
Audio Tape	1		1		2
2x2 Slides					
Programmed Instruction					
Instructional Packet					
Information Packet					
Program Packet					
Case Study					
Typed Script					
Simulation					
Books and Paperbacks		4			4
Television Receiver					
Videotape Recorder					
Cassette Recorder					

Table 2

Specifications for Module CM-1.2 (page 106)

Categories	Activities				
	1	2	3	4	T
Running Total Time	2	17	19	22	22
Chronule	1	1	1	1	
Number of Groups	100	100	100	100	
Number of Sections	1	1	1	1	
Size of Group	2		2		4
Pre or Post Testing					
Seminar Meeting					
Small Group Meeting					
Independent Study		15			15
Field Work: Tutoring					
Field Work: Teaching					
Field Work: Nonteaching					
Remediation				3	3
Facilitation Center	2		2		4
Field Center					
Faculty: Univ. Prof.				1	1
Faculty: Clin. Prof.					
Faculty: Clin. Teacher					
Study Carrel A					
Study Carrel B					
Study Carrel C					
Small Group Room A					
Small Group Room B					

Table 2 (Continued)

	Activities				
Categories	1	2	3	4	T
Seminar Room A					
Seminar Room B					
Testing Station A					
Testing Station B					
Testing Station C	2		2		4
16mm Film A					
16mm Film B					
16mm Film C					
16mm Film D					
16mm Film Commercial					
Audio Tape					
2x2 Slides					
Programmed Instruction					
Instructional Packet					
Information Packet					
Program Packet					
Case Study					
Typed Script					
Simulation					
Books and Paperbacks		5			5
Television Receiver					
Videotape Recorder					
Cassette Recorder					

Table 3

Specifications for Module CM-1.3 (page 107)

	Activities				
Categories	1	2	3	4	T
Running Total Time	2	17	19	22	22
Chronule	1	1	1	1	
Number of Groups	100	100	100	100	
Number of Sections	1	1	1	1	
Size of Group	1	1	1	1	
Pre or Post Testing	2		2		4
Seminar Meeting					
Small Group Meeting					
Independent Study		15			15
Field Work: Tutoring					
Field Work: Teaching					
Field Work: Nonteaching					
Remediation				3	3
Facilitation Center	2		2		4
Field Center					
Faculty: Univ. Prof.				1	1
Faculty: Clin. Prof.					
Faculty: Clin. Teacher					
Study Carrel A					
Study Carrel B					
Study Carrel C					
Small Group Room A					
Small Group Room B					

Table 3 (Continued)

	Activities				
Categories	1	2	3	4	T
Seminar Room A					
Seminar Room B					
Testing Station A	2		2		4
Testing Station B					
Testing Station C					
16mm Film A					
16mm Film B					
16mm Film C					
16mm Film D					
16mm Film Commercial					
Audio Tape					
2x2 Slides	1	3			4
Programmed Instruction					
Instructional Packet					
Information Packet					
Program Packet					
Case Study					
Typed Script					
Simulation					
Books and Paperbacks		4			4
Television Receiver					
Videotape Recorder					
Cassette Recorder					

Table 4

Specifications for Module CM-1.4 (page 108)

	Activities				
Categories	1	2	3	4	T
Running Total Time	2	14	16	19	19
Chronule	1	1	1	1	
Number of Groups	100	100	100	100	
Number of Sections	1	1	1	1	
Size of Group	1	1	1	1	
Pre or Post Testing	2		2		4
Seminar Meeting					
Small Group Meeting					
Independent Study		12			12
Field Work: Tutoring					
Field Work: Teaching					
Field Work: Nonteaching					
Remediation				3	3
Facilitation Center	2		2		4
Field Center					
Faculty: Univ. Prof.				1	1
Faculty: Clin. Prof.					
Faculty: Clin. Teacher					
Study Carrel A	2		2		4
Study Carrel B					
Study Carrel C					
Small Group Room A					
Small Group Room B					

Table 4 (Continued)

	Activities				
Categories	1	2	3	4	T
Seminar Room A					
Seminar Room B					
Testing Station A					
Testing Station B					
Testing Station C					
16mm Film A					
16mm Film B					
16mm Film C					
16mm Film D					
16mm Film Commercial					
Audio Tape					
2x2 Slides	1	3	1		5
Programmed Instruction					
Instructional Packet					
Information Packet					
Program Packet					
Case Study					
Typed Script					
Simulation					
Books and Paperbacks		3			3
Television Receiver					
Videotape Recorder					
Cassette Recorder					

Table 5

Specifications for Module CM-1.5 (page 109)

	Activities				
Categories	1	2	3	4	T
Running Total Time	2	17	19	22	22
Chronule	1	1	1	1	
Number of Groups	100	100	100	100	
Number of Sections	1	1	1	1	
Size of Group	1	1	1	1	
Pre or Post Testing	2		2		4
Seminar Meeting					
Small Group Meeting					
Independent Study		15			15
Field Work: Tutoring					
Field Work: Teaching					
Field Work: Nonteaching					
Remediation				3	3
Facilitation Center	2		2		4
Field Center					
Faculty: Univ. Prof.				1	1
Faculty: Clin. Prof.					
Faculty: Clin. Teacher					
Study Carrel A					
Study Carrel B					
Study Carrel C					
Small Group Room A					
Small Group Room B					

Table 5 (Continued)

	Activities				
Categories	1	2	3	4	T
Seminar Room A					
Seminar Room B					
Testing Station A					
Testing Station B					
Testing Station C	2		2		4
16mm Film A					
16mm Film B					
16mm Film C					
16mm Film D					
16mm Film Commercial					
Audio Tape					
2x2 Slides					
Programmed Instruction					
Instructional Packet					
Information Packet					
Program Packet					
Case Study					
Typed Script					
Simulation					
Books and Paperbacks		6			6
Television Receiver					
Videotape Recorder					
Cassette Recorder					

Table 6

Specifications for Module CM-1.6 (pages 110 through 111)

	Activities				
Categories	1	2	3	4	T
Running Total Time	4	19	23	26	26
Chronule	1	1	1	1	
Number of Groups	100	100	100	100	
Number of Sections	1	1	1	1	
Size of Group	1	1	1	1	
Pre or Post Testing	4		4		8
Seminar Meeting					
Small Group Meeting					
Independent Study		15			15
Field Work: Tutoring					
Field Work: Teaching					
Field Work: Nonteaching					
Remediation				3	3
Facilitation Center	4		4		8
Field Center					
Faculty: Univ. Prof.				1	1
Faculty: Clin. Prof.					
Faculty: Clin. Teacher					
Study Carrel A					
Study Carrel B					
Study Carrel C					
Small Group Room A					
Small Group Room B					

Table 6 (Continued)

	Activities				
Categories	1	2	3	4	T
Seminar Room A					
Seminar Room B					
Testing Station A	4		4		8
Testing Station B					
Testing Station C					
16mm Film A					
16mm Film B					
16mm Film C					
16mm Film D	$\frac{2}{3}$		$\frac{2}{3}$		$\frac{4}{3}$
16mm Film Commercial					
Audio Tape					
2x2 Slides	$\frac{1}{3}$		$\frac{1}{3}$		$\frac{2}{3}$
Programmed Instruction					
Instructional Packet					
Information Packet					
Program Packet					
Case Study					
Typed Script					
Simulation					
Books and Paperbacks		8			8
Television Receiver					
Videotape Recorder					
Cassette Recorder					

Table 7

Specifications for Module CM-2 (pages 113 through 115)

	Activities							
Categories	1	2	3a	3b	4	5	6	T
Running Total Time	2	5	11	17	23	25	30	30
Chronule	2	3	6	6	6	2	5	
Number of Groups	15	1	3	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	
Size of Group	1	15	5	1	15	1	1	
Pre or Post Testing	2					2		4
Seminar Meeting		3			6			9
Small Group Meeting			6					6
Independent Study								
Field Work: Tutoring								
Field Work: Teaching								
Field Work: Nonteaching								
Remediation							5	5
Facilitation Center	2	3	6	3	6	2		22
Field Center								
Faculty: Univ. Prof.		3			6		2	11
Faculty: Clin. Prof.								
Faculty: Clin. Teacher								
Study Carrel A				3				3
Study Carrel B								
Study Carrel C								
Small Group Room A			6					6
Small Group Room B								

Table 7 (Continued)

Categories	Activities 1	2	3a	3b	4	5	6	T
Seminar Room A								
Seminar Room B		3			6			9
Testing Station A	2					2		
Testing Station B								
Testing Station C								
16mm Film A								
16mm Film B								
16mm Film C								
16mm Film D			$\frac{2}{3}$	$\frac{2}{3}$				4
16mm Film Commercial								
Audio Tape								
2x2 Slides	$\frac{1}{2}$						$\frac{1}{2}$	2
Programmed Instruction								
Instructional Packet								
Information Packet								
Program Packet								
Case Study								
Typed Script								
Simulation								
Books and Paperbacks								
Television Receiver								
Videotape Recorder								
Cassette Recorder								

Table 8

Specifications for Module CM-3 (pages 116 through 118)

	Activities									
Categories	1	2	3	4	5a	5b	6	7	8	T
Running Total Time	2	8	14	20	26	35	41	43	48	48
Chronule	2	6	6	6	6	9	6	2	5	
Number of Groups	15	1	3	1	3	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	7	
Size of Group	1	15	5	15	5	1	15	1	1	
Pre or Post Testing	2							2		4
Seminar Meeting		6		6			6			18
Small Group Meeting			6		6					12
Independent Study						9				9
Field Work: Tutoring										
Field Work: Teaching										
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center	2	6	6	6	6		6	2	2	36
Field Center										
Faculty: Univ. Prof.		6		6			6		2	20
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A										
Study Carrel B										
Study Carrel C										
Small Group Room A			6		6					12
Small Group Room B										

Table 8 (Continued)

	Activities									
Categories	1	2	3	4	5a	5b	6	7	8	T
Seminar Room A										
Seminar Room B		6		6			6			18
Testing Station A	2							2		4
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D	$\frac{1}{4}$		$\frac{2}{3}$		$\frac{2}{3}$			$\frac{1}{4}$		6
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet										
Information Packet		$\frac{1}{3}$	$\frac{1}{3}$			$\frac{1}{3}$				3
Program Packet			$\frac{1}{3}$							1
Case Study										
Typed Script										
Simulation										
Books and Paperbacks										
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 9

Specifications for Module CM-4 (pages 119 through 121)

	Activities						
Categories	1	2	3	4	5	6	T
Running Total Time	2	8	23	29	35	40	40
Chronule	2	6	15	6	6	5	
Number of Groups	15	1	15	1	15	2	
Number of Sections	7	7	7	7	7	7	
Size of Group	1	15	1	15	1	1	
Pre or Post Testing	2				6		8
Seminar Meeting		6		6			12
Small Group Meeting							
Independent Study			15				15
Field Work: Tutoring							
Field Work: Teaching							
Field Work: Nonteaching							
Remediation						5	5
Facilitation Center	2					3	5
Field Center							
Faculty: Univ. Prof.		6			6	2	14
Faculty: Clin. Prof.							
Faculty: Clin. Teacher							
Study Carrel A							
Study Carrel B							
Study Carrel C							
Small Group Room A							
Small Group Room B							

Table 9 (Continued)

	Activities						
Categories	1	2	3	4	5	6	T
Seminar Room A							
Seminar Room B		6			6		12
Testing Station A							
Testing Station B							
Testing Station C	2						2
16mm Film A							
16mm Film B							
16mm Film C							
16mm Film D							
16mm Film Commercial							
Audio Tape							
2x2 Slides							
Programmed Instruction							
Instructional Packet							
Information Packet							
Program Packet				$\frac{1}{4}$			1
Case Study							
Typed Script							
Simulation							
Books and Paperbacks			2				2
Television Receiver							
Videotape Recorder							
Cassette Recorder							

Table 10

Specifications for Module CM-5 (pages 122 through 124)

Categories	Activities 1	2	3	4	5	6	T
Running Total Time	2	8	23	29	31	36	36
Chronule	2	6	15	6	2	5	
Number of Groups	15	1	15	1	15	2	
Number of Sections	7	7	7	7	7	7	
Size of Group	1	15	1	15	1	1	
Pre or Post Testing	2				2		4
Seminar Meeting		6		6			12
Small Group Meeting							
Independent Study			15				15
Field Work: Tutoring							
Field Work: Teaching							
Field Work: Nonteaching							
Remediation						5	5
Facilitation Center	2				2		4
Field Center							
Faculty: Univ. Prof.				6		2	8
Faculty: Clin. Prof.							
Faculty: Clin. Teacher							
Study Carrel A							
Study Carrel B							
Study Carrel C							
Small Group Room A							
Small Group Room B							

Table 10 (Continued)

	Activities						
Categories	1	2	3	4	5	6	T
Seminar Room A							
Seminar Room B		6		6			12
Testing Station A							
Testing Station B							
Testing Station C	2				2		4
16mm Film A							
16mm Film B							
16mm Film C							
16mm Film D							
16mm Film Commercial							
Audio Tape							
2x2 Slides							
Programmed Instruction							
Instructional Packet		$\frac{1}{3}$					1
Information Packet							
Program Packet			$\frac{1}{5}$				1
Case Study							
Typed Script							
Simulation							
Books and Paperbacks				2			2
Television Receiver							
Videotape Recorder							
Cassette Recorder							

Table 11

Specifications for Module CM-6 (pages 125 through 127)

Categories	Activities 1	2a	2b	3	4	5	6	T
Running Total Time	2	8	9	18	24	26	31	31
Chronule	2	6	1	9	6	2	5	
Number of Groups	15	1	15	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	
Size of Group	1	15	1	1	15	1	1	
Pre or Post Testing	2					2		4
Seminar Meeting		6			6			12
Small Group Meeting								
Independent Study			1	9				10
Field Work: Tutoring								
Field Work: Teaching								
Field Work: Nonteaching								
Remediation								
Facilitation Center	2	6	1		6	2		17
Field Center								
Faculty: Univ. Prof.		6			6		2	14
Faculty: Clin. Prof.								
Faculty: Clin. Teacher								
Study Carrel A								
Study Carrel B								
Study Carrel C								
Small Group Room A								
Small Group Room B								

Table 11 (Continued)

Categories	Activities 1	2a	2b	3	4	5	6	T
Seminar Room A								
Seminar Room B		6			6			12
Testing Station A	2					2		4
Testing Station B								
Testing Station C								
16mm Film A								
16mm Film B								
16mm Film C								
16mm Film D	$\frac{1}{4}$					$\frac{1}{4}$		2
16mm Film Commercial								
Audio Tape								
2x2 Slides								
Programmed Instruction								
Instructional Packet								
Information Packet								
Program Packet			$\frac{1}{5}$					1
Case Study			$\frac{4}{3}$					4
Typed Script								
Simulation								
Books and Paperbacks			4					4
Television Receiver								
Videotape Recorder								
Cassette Recorder								

Table 12

Specifications for Module CM-7 (pages 128 through 130)

	Activities											
Categories	1	2	3	4	5	6	7a	7b	7c	8	9	T
Running Total Time	2	8	17	23	32	41	47	50	51	53	58	58
Chronule	2	6	9	6	9	9	6	3	1	2	5	
Number of Groups	15	1	15	1	3	15	1	1	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	
Size of Group	1	15	1	15	5	1	15	15	15	1	1	
Pre or Post Testing	2									2		4
Seminar Meeting		6		6			6	3	1			22
Small Group Meeting					3							3
Independent Study			9			9						18
Field Work: Tutoring												
Field Work: Teaching												
Field Work: Nonteaching												
Remediation											5	5
Facilitation Center	2	6	9	6	3		6	3	1	2	2	40
Field Center												
Faculty: Univ. Prof.		6		6			6	3	1		2	24
Faculty: Clin. Prof.												
Faculty: Clin. Teacher												
Study Carrel A												
Study Carrel B												
Study Carrel C												
Small Group Room A					3							3
Small Group Room B												

Table 12 (Continued)

Categories	Activities 1	2	3	4	5	6	7a	7b	7c	8	9	T
Seminar Room A												
Seminar Room B		6		6			6	3	1			22
Testing Station A												
Testing Station B												
Testing Station C	2									2		4
16mm Film A												
16mm Film B												
16mm Film C												
16mm Film D												
16mm Film Commercial												
Audio Tape												
2x2 Slides												
Programmed Instruction												
Instructional Packet												
Information Packet												
Program Packet					$\frac{1}{4}$							1
Case Study												
Typed Script												
Simulation												
Books and Paperbacks												
Television Receiver												
Videotape Recorder												
Cassette Recorder												

Table 13

Specifications for Module CM-8 (pages 132 through 134)

	Activities									
Categories	1	2	3a	3b	3c	4	5	6	7	T
Running Total Time	2	8	14	20	26	35	41	43	48	48
Chronule	2	6	6	6	6	9	6	2	5	
Number of Groups	15	1	3	3	3	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	7	
Size of Group	1	15	5	5	5	1	15	1	1	
Pre or Post Testing	2							2		4
Seminar Meeting		6					6			12
Small Group Meeting			6	6	6					18
Independent Study						9				9
Field Work: Tutoring										
Field Work: Teaching										
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center	2	6	6	6	6		6	2	2	36
Field Center										
Faculty: Univ. Prof.		6					6		2	14
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A										
Study Carrel B										
Study Carrel C										
Small Group Room A			6	6						12
Small Group Room B					6					6

Table 13 (Continued)

Categories	Activities 1	2	3a	3b	3c	4	5	6	7	T
Seminar Room A										
Seminar Room B		6					6			12
Testing Station A	2							2		4
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D	$\frac{1}{3}$		$\frac{3}{3}$					$\frac{1}{3}$		5
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet			$\frac{1}{3}$		$\frac{1}{3}$					2
Information Packet										
Program Packet						$\frac{1}{4}$				1
Case Study										
Typed Script										
Simulation										
Books and Paperbacks										
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 14

Specifications for Module CM-9 (pages 135 through 137)

	Activities							
Categories	1	2a	2b	3	4	5	6	T
Running Total Time	2	3	8	17	23	25	30	30
Chronule	2	1	5	9	6	2	5	
Number of Groups	15	1	1	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	
Size of Group	1	15	15	1	15	1	1	
Pre or Post Testing	2					2		4
Seminar Meeting		1	5		6			12
Small Group Meeting								
Independent Study				9				9
Field Work: Tutoring								
Field Work: Teaching								
Field Work: Nonteaching								
Remediation								
Facilitation Center	2	1	5		6	2		16
Field Center								
Faculty: Univ. Prof.		1	5		6		2	14
Faculty: Clin. Prof.								
Faculty: Clin. Teacher				2				2
Study Carrel A								
Study Carrel B								
Study Carrel C								
Small Group Room A								
Small Group Room B								

Table 14 (Continued)

Categories	Activities 1	 2a	 2b	 3	 4	 5	 6	 T
Seminar Room A								
Seminar Room B		1	5		6			12
Testing Station A								
Testing Station B								
Testing Station C	2					2		4
16mm Film A								
16mm Film B								
16mm Film C								
16mm Film D								
16mm Film Commercial								
Audio Tape								
2x2 Slides								
Programmed Instruction								
Instructional Packet								
Information Packet								
Program Packet		$\frac{1}{3}$						1
Case Study								
Typed Script								
Simulation								
Books and Paperbacks								
Television Receiver								
Videotape Recorder								
Cassette Recorder								

Table 15

Specifications for Module CM-10 (pages 138 through 140)

	Activities								
Categories	1	2	3	4a	4b	5	6	7	T
Running Total Time	2	8	14	20	23	32	34	39	39
Chronule	2	6	6	6	3	9	2	5	
Number of Groups	15	3	7	7	7	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	
Size of Group	1	5	2	2	2	15	1	1	
Pre or Post Testing	2						2		4
Seminar Meeting									
Small Group Meeting									
Independent Study									
Field Work: Tutoring		6	6	6	3				21
Field Work: Teaching									
Field Work: Nonteaching									
Remediation								5	5
Facilitation Center	2					9	2		13
Field Center		6	6	6	3				21
Faculty: Univ. Prof.						9		2	11
Faculty: Clin. Prof.									
Faculty: Clin. Teacher		6							6
Study Carrel A									
Study Carrel B									
Study Carrel C									
Small Group Room A									
Small Group Room B									

Table 15 (Continued)

Categories	Activities 1	2	3	4a	4b	5	6	7	T
Seminar Room A						9			9
Seminar Room B									
Testing Station A	2						2		4
Testing Station B									
Testing Station C									
16mm Film A									
16mm Film B									
16mm Film C									
16mm Film D	1								1
16mm Film Commercial									
Audio Tape									
2x2 Slides									
Programmed Instruction									
Instructional Packet									
Information Packet									
Program Packet									
Case Study									
Typed Script									
Simulation									
Books and Paperbacks									
Television Receiver							2		2
Videotape Recorder			6						6
Cassette Recorder									

Table 16

Specifications for Module CM-11 (pages 141 through 144)

Categories	Activities 1	2a	2b	3	4	5	6a	6b	T
Running Total Time	3	12	14	20	26	32	38	40	40
Chronule	3	9	2	6	6	6	6	2	
Number of Groups	1	2	2	1	2	1	1	1	
Number of Sections	50	50	50	50	50	50	50	50	
Size of Group	2	1	1	2	1	2	2	2	
Pre or Post Testing									
Seminar Meeting							6		6
Small Group Meeting									
Independent Study					6				6
Field Work: Tutoring									
Field Work: Teaching	3	9	2	6					20
Field Work: Nonteaching						6		2	8
Remediation									
Facilitation Center									
Field Center	3	9	2	6		6	6	2	34
Faculty: Univ. Prof.									
Faculty: Clin. Prof.							6	2	8
Faculty: Clin. Teacher	3					6			9
Study Carrel A									
Study Carrel B									
Study Carrel C									
Small Group Room A									
Small Group Room B									

Table 16 (Continued)

	Activities								
Categories	1	2a	2b	3	4	5	6a	6b	T
Seminar Room A									
Seminar Room B									
Testing Station A									
Testing Station B									
Testing Station C									
16mm Film A									
16mm Film B									
16mm Film C									
16mm Film D									
16mm Film Commercial									
Audio Tape									
2x2 Slides									
Programmed Instruction									
Instructional Packet									
Information Packet									
Program Packet									
Case Study									
Typed Script									
Simulation									
Books and Paperbacks									
Television Receiver									
Videotape Recorder				6					6
Cassette Recorder									

Table 17

Specifications for Module CM-12 (pages 145 through 147)

	Activities										
Categories	1a	1b	2a	2b	3	4a	4b	5	6a	6b	T
Running Total Time	6	9	18	21	24	27	29	35	38	40	40
Chronule	6	3	9	3	3	3	2	6	3	2	
Number of Groups	7	7	15	15	7	7	7	7	1	2	
Number of Sections	7	7	7	7	7	7	7	7	7	7	
Size of Group	2	2	1	1	2	2	2	2	15	1	
Pre or Post Testing											
Seminar Meeting											
Small Group Meeting											
Independent Study			9	3		3	2				17
Field Work: Tutoring											
Field Work: Teaching					3						3
Field Work: Nonteaching	6	3						6	3	2	20
Remediation										2	2
Facilitation Center											
Field Center											
Faculty: Univ. Prof.											
Faculty: Clin. Prof.										2	2
Faculty: Clin. Teacher	6	3							3		12
Study Carrel A											
Study Carrel B											
Study Carrel C											
Small Group Room A											
Small Group Room B											

Table 17 (Continued)

Categories	Activities 1a	1b	2a	2b	3	4a	4b	5	6a	6b	T
Seminar Room A											
Seminar Room B											
Testing Station A											
Testing Station B											
Testing Station C											
16mm Film A											
16mm Film B											
16mm Film C											
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction			$\frac{1}{3}$								1
Instructional Packet			$\frac{1}{3}$								1
Information Packet			$\frac{1}{3}$								1
Program Packet											
Case Study											
Typed Script											
Simulation											
Books and Paperbacks											
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 18

Specifications for Module CM-13 (pages 148 through 150)

	Activities										
Categories	1	2a	2b	3	4a	4b	5	6	7a	7b	T
Running Total Time	6	24	30	36	39	45	54	60	62	68	68
Chronule	6	18	6	6	3	6	9	6	2	6	
Number of Groups	7	15	15	7	15	7	15	7	2	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	
Size of Group	2	1	1	2	1	2	1	2	1	15	
Pre or Post Testing											
Seminar Meeting											
Small Group Meeting											
Independent Study		18	6		3		9				36
Field Work: Tutoring											
Field Work: Teaching						6					6
Field Work: Nonteaching	6			6				6			18
Remediation									2	6	8
Facilitation Center		18									18
Field Center	6			6	3	6		6	2	6	35
Faculty: Univ. Prof.											
Faculty: Clin. Prof.	6			6					2	6	20
Faculty: Clin. Teacher											
Study Carrel A											
Study Carrel B											
Study Carrel C											
Small Group Room A											
Small Group Room B											

Table 18 (Continued)

Categories	Activities 1	 2a	 2b	 3	 4a	 4b	 5	 6	 7a	 7b	 T
Seminar Room A											
Seminar Room B											
Testing Station A											
Testing Station B											
Testing Station C											
16mm Film A											
16mm Film B											
16mm Film C											
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet		$\frac{1}{3}$					$\frac{1}{3}$				2
Information Packet		$\frac{1}{3}$					$\frac{1}{3}$				2
Program Packet											
Case Study											
Typed Script											
Simulation											
Books and Paperbacks		8									8
Television Receiver											
Videotape Recorder						6					6
Cassette Recorder											

Table 19

Specifications for Module CM-14 (pages 151 through 153)

	Activities									
Categories	1	2a	2b	3	4	5a	5b	6a	6b	T
Running Total Time	6	9	24	30	39	45	51	56	62	62
Chronule	6	3	15	6	9	6	6	5	6	
Number of Groups	7	15	15	7	15	7	7	2	1	
Number of Sections	7	7	7	7	7	7	7	7	7	
Size of Group	2	1	1	2	1	2	2	1	15	
Pre or Post Testing										
Seminar Meeting										
Small Group Meeting										
Independent Study		3	15		9					27
Field Work: Tutoring										
Field Work: Teaching				6						6
Field Work: Nonteaching	6					6	6	2	6	26
Remediation										
Facilitation Center		3	15							18
Field Center										
Faculty: Univ. Prof.										
Faculty: Clin. Prof.	6								6	12
Faculty: Clin. Teacher						6	6	2		14
Study Carrel A										
Study Carrel B										
Study Carrel C										
Small Group Room A										
Small Group Room B										

Table 19 (Continued)

Categories	Activities 1	2a	2b	3	4	5a	5b	6a	6b	T
Seminar Room A										
Seminar Room B									6	6
Testing Station A										
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D										
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet					$\frac{1}{3}$					1
Information Packet	$\frac{1}{3}$									1
Program Packet										
Case Study										
Typed Script										
Simulation										
Books and Paperbacks		6								6
Television Receiver										
Videotape Recorder				6						6
Cassette Recorder										

Table 20

Specifications for Module CM-15 (pages 154 through 156)

Categories	Activities 1	2a	2b	2c	3	4	5	6a	6b	T
Running Total Time	3	9	18	24	26	32	35	37	43	43
Chronule	3	6	9	6	2	6	3	2	6	
Number of Groups	7	15	15	15	7	7	7	2	1	
Number of Sections	7	7	7	7	7	7	7	7	7	
Size of Group	2	1	1	1	2	2	2	1	15	
Pre or Post Testing										
Seminar Meeting										
Small Group Meeting										
Independent Study			9	6		6				21
Field Work: Tutoring										
Field Work: Teaching					2					2
Field Work: Nonteaching	3	6					3	3	3	18
Remediation										
Facilitation Center			9							9
Field Center										
Faculty: Univ. Prof.										
Faculty: Clin. Prof.	3							2		5
Faculty: Clin. Teacher							2		3	5
Study Carrel A										
Study Carrel B										
Study Carrel C										
Small Group Room A										
Small Group Room B										

Table 20 (Continued)

	Activities									
Categories	1	2a	2b	2c	3	4	5	6a	6b	T
Seminar Room A										
Seminar Room B										
Testing Station A										
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D										
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet										
Information Packet										
Program Packet										
Case Study										
Typed Script										
Simulation										
Books and Paperbacks			3							3
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 21

Specifications for Module CM-16 (pages 157 through 159)

	Activities							
Categories	1	2	3	4	5	6a	6b	T
Running Total Time	6	15	16	19	25	30	33	33
Chronule	6	9	1	3	6	5	3	
Number of Groups	1	2	2	2	1	1	2	
Number of Sections	50	50	50	50	50	10	50	
Size of Group	2	1	1	1	2	1	1	
Pre or Post Testing								
Seminar Meeting								
Small Group Meeting								
Independent Study				3				3
Field Work: Tutoring								
Field Work: Teaching	6		6		6	5		18
Field Work: Nonteaching		9						9
Remediation						5		5
Facilitation Center								
Field Center								
Faculty: Univ. Prof.								
Faculty: Clin. Prof.								
Faculty: Clin. Teacher	6		1			2	3	12
Study Carrel A								
Study Carrel B								
Study Carrel C								
Small Group Room A								
Small Group Room B	6				6		3	15

Table 21 (Continued)

Categories	Activities 1	2	3	4	5	6a	6b	T
Seminar Room A								
Seminar Room B								
Testing Station A								
Testing Station B								
Testing Station C								
16mm Film A								
16mm Film B								
16mm Film C								
16mm Film D								
16mm Film Commercial								
Audio Tape								
2x2 Slides								
Programmed Instruction								
Instructional Packet								
Information Packet								
Program Packet								
Case Study								
Typed Script								
Simulation								
Books and Paperbacks								
Television Receiver								
Videotape Recorder								
Cassette Recorder								

Table 22

Specifications for Module CM-17 (pages 162 through 164)

Categories	Activities 1	2	3	4	5	T
Running Total Time	2	8	14	23	28	28
Chronule	2	6	6	9	5	
Number of Groups	7	1	1	15	2	
Number of Sections	7	7	7	7	7	
Size of Group	2	15	15	1	1	
Pre or Post Testing						
Seminar Meeting	2	6	6			14
Small Group Meeting						
Independent Study				9		9
Field Work: Tutoring						
Field Work: Teaching						
Field Work: Nonteaching						
Remediation					5	5
Facilitation Center		6	6			12
Field Center	2					2
Faculty: Univ. Prof.		6				6
Faculty: Clin. Prof.			6		2	8
Faculty: Clin. Teacher	2			6		8
Study Carrel A						
Study Carrel B						
Study Carrel C						
Small Group Room A						
Small Group Room B						

Table 22 (Continued)

Categories	Activities 1	2	3	4	5	T
Seminar Room A						
Seminar Room B						
Testing Station A						
Testing Station B						
Testing Station C						
16mm Film A						
16mm Film B						
16mm Film C						
16mm Film D						
16mm Film Commercial						
Audio Tape						
2x2 Slides						
Programmed Instruction						
Instructional Packet						
Information Packet						
Program Packet						
Case Study						
Typed Script						
Simulation						
Books and Paperbacks			3			3
Television Receiver						
Videotape Recorder						
Cassette Recorder						

Table 23

Specifications for Module CM-18 (pages 163 through 165)

Categories	Activities 1	2	3	4	5a	5b	6	7	T
Running Total Time	6	12	21	30	39	45	46	51	51
Chronule	6	6	9	9	9	6	1	5	
Number of Groups	15	1	15	15	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	
Size of Group	1	15	1	1	1	15	1	1	
Pre or Post Testing							1		1
Seminar Meeting		6				6			12
Small Group Meeting									
Independent Study			9		9				18
Field Work: Tutoring									
Field Work: Teaching	6								6
Field Work: Nonteaching				9					9
Remediation								5	5
Facilitation Center		6	9		9	6	1		31
Field Center	6			9					15
Faculty: Univ. Prof.		6				6	1	2	15
Faculty: Clin. Prof.	6								6
Faculty: Clin. Teacher									
Study Carrel A									
Study Carrel B									
Study Carrel C									
Small Group Room A									
Small Group Room B									

Table 23 (Continued)

	Activities								
Categories	1	2	3	4	5a	5b	6	7	T
Seminar Room A		6							6
Seminar Room B									
Testing Station A									
Testing Station B									
Testing Station C									
16mm Film A									
16mm Film B									
16mm Film C									
16mm Film D		1							1
16mm Film Commercial									
Audio Tape									
2x2 Slides									
Programmed Instruction									
Instructional Packet									
Information Packet	1								1
Program Packet		1							1
Case Study									
Typed Script									
Simulation									
Books and Paperbacks									
Television Receiver									
Videotape Recorder									
Cassette Recorder									

Table 24

Specifications for Module CM-19 (pages 166 through 168)

	Activities						
Categories	1	2	3	4	5	6	T
Running Total Time	6	21	27	36	42	47	47
Chronule	6	15	6	9	6	5	
Number of Groups	1	15	1	15	1	2	
Number of Sections	7	7	7	7	7	7	
Size of Group	15	1	15	1	15	1	
Pre or Post Testing							
Seminar Meeting	6		6		6		18
Small Group Meeting							
Independent Study		15		9			24
Field Work: Tutoring							
Field Work: Teaching							
Field Work: Nonteaching				9			9
Remediation						5	5
Facilitation Center	6		6		6		18
Field Center							
Faculty: Univ. Prof.	6		6		6	2	20
Faculty: Clin. Prof.							
Faculty: Clin. Teacher							
Study Carrel A							
Study Carrel B							
Study Carrel C							
Small Group Room A							
Small Group Room B							

Table 24 (Continued)

	Activities						
Categories	1	2	3	4	5	6	T
Seminar Room A							
Seminar Room B	6		6				12
Testing Station A							
Testing Station B							
Testing Station C							
16mm Film A							
16mm Film B							
16mm Film C							
16mm Film D							
16mm Film Commercial							
Audio Tape							
2x2 Slides							
Programmed Instruction							
Instructional Packet	$\frac{1}{3}$						1
Information Packet	$\frac{1}{3}$						1
Program Packet	$\frac{1}{4}$						1
Case Study							
Typed Script							
Simulation							
Books and Paperbacks							
Television Receiver							
Videotape Recorder							
Cassette Recorder							

Table 25

Specifications for Module CM-20 (pages 169 through 171)

Categories	Activities 1	2	3	4	5a	5b	6	7	T
Running Total Time	6	15	21	27	36	42	57	62	62
Chronule	6	9	6	6	9	6	15	5	
Number of Groups	1	15	1	1	15	15	15	1	
Number of Sections	7	7	7	7	7	7	7	7	
Size of Group	15	1	15	15	1	1	1	1	
Pre or Post Testing								5	5
Seminar Meeting	6		6	6					18
Small Group Meeting									
Independent Study					9	6	15		30
Field Work: Tutoring									
Field Work: Teaching									
Field Work: Nonteaching		15							15
Remediation								5	5
Facilitation Center	6			6	9	6			27
Field Center		15	6						21
Faculty: Univ. Prof.			6	6				2	12
Faculty: Clin. Prof.	6						2	2	10
Faculty: Clin. Teacher									
Study Carrel A									
Study Carrel B									
Study Carrel C									
Small Group Room A									
Small Group Room B									

Table 25 (Continued)

	Activities							
Categories	1	2	3	4	5a	5b	6	7	T
Seminar Room A									
Seminar Room B	6		6	6					18
Testing Station A									
Testing Station B									
Testing Station C									
16mm Film A									
16mm Film B									
16mm Film C									
16mm Film D									
16mm Film Commercial									
Audio Tape									
2x2 Slides									
Programmed Instruction									
Instructional Packet									
Information Packet									
Program Packet			1	1					2
Case Study									
Typed Script									
Simulation									
Books and Paperbacks									
Television Receiver									
Videotape Recorder									
Cassette Recorder									

Table 26

Specifications for Module CM-21 (pages 172 through 174)

	Activities						
Categories	1	2a	2b	2c	3	4	T
Running Total Time	6	12	24	30	36	41	41
Chronule	6	6	12	6	6	5	
Number of Groups	1	1	15	1	15	2	
Number of Sections	7	7	7	7	7	7	
Size of Group	15	15	1	15	1	1	
Pre or Post Testing							
Seminar Meeting	6	6		6			18
Small Group Meeting							
Independent Study			12		6		18
Field Work: Tutoring							
Field Work: Teaching	6				6		12
Field Work: Nonteaching							
Remediation						5	5
Facilitation Center		6	12	6			24
Field Center	6				6		12
Faculty: Univ. Prof.		6				2	8
Faculty: Clin. Prof.	6						6
Faculty: Clin. Teacher	6						6
Study Carrel A							
Study Carrel B							
Study Carrel C							
Small Group Room A							
Small Group Room B							

Table 26 (Continued)

	Activities						
Categories	1	2a	2b	2c	3	4	T
Seminar Room A							
Seminar Room B		6		6			12
Testing Station A							
Testing Station B							
Testing Station C							
16mm Film A							
16mm Film B							
16mm Film C							
16mm Film D							
16mm Film Commercial							
Audio Tape							
2x2 Slides							
Programmed Instruction							
Instructional Packet							
Information Packet							
Program Packet							
Case Study							
Typed Script							
Simulation							
Books and Paperbacks							
Television Receiver							
Videotape Recorder							
Cassette Recorder							

Table 27

Specifications for Module CD-1 (pages 182 through 184)

	Activities											
Categories	1	2a	2b	2c	2d	3	4a	4b	4c	5	6	T
Running Total Time	2	8	14	20	26	35	38	41	47	49	54	54
Chronule	2	6	6	6	6	9	3	3	6	2	5	
Number of Groups	5	1	1	1	1	5	1	1	1	5	1	
Number of Sections	20	20	20	20	20	20	20	20	20	20	20	
Size of Group	1	5	5	5	5	1	5	5	5	1	1	
Pre or Post Testing	2									2		4
Seminar Meeting												
Small Group Meeting		6	6		6		3	3	6			30
Independent Study				6		9						15
Field Work: Tutoring												
Field Work: Teaching												
Field Work: Nonteaching												
Remediation											5	5
Facilitation Center	2	6	6		6	9	3	3	6	2	2	45
Field Center												
Faculty: Univ. Prof.											2	2
Faculty: Clin. Prof.												
Faculty: Clin. Teacher												
Study Carrel A												
Study Carrel B												
Study Carrel C												
Small Group Room A			6	6			3	3	6			24
Small Group Room B		6			6							12

Table 27 (Continued)

	Activities											
Categories	1	2a	2b	2c	2d	3	4a	4b	4c	5	6	T
Seminar Room A												
Seminar Room B												
Testing Station A	2									2		4
Testing Station B												
Testing Station C												
16mm Film A												
16mm Film B												
16mm Film C												
16mm Film D	$\frac{1}{3}$		$\frac{3}{3}$				$\frac{2}{3}$					6
16mm Film Commercial												
Audio Tape												
2x2 Slides												
Programmed Instruction												
Instructional Packet												
Information Packet		$\frac{1}{4}$										1
Program Packet						$\frac{1}{4}$						1
Case Study						$\frac{1}{4}$						1
Typed Script												
Simulation												
Books and Paperbacks												
Television Receiver												
Videotape Recorder												
Cassette Recorder												

Table 28

Specifications for Module CD-2 (pages 185 through 187)

	Activities						
Categories	1	2	3	4	5	6	T
Running Total Time	2	8	14	29	31	36	36
Chronule	2	6	6	15	2	5	
Number of Groups	3	1	1	3	3	1	
Number of Sections	7	7	7	7	7	7	
Size of Group	5	15	15	5	5	15	
Pre or Post Testing	2				2		4
Seminar Meeting							
Small Group Meeting		6	6				12
Independent Study							
Field Work: Tutoring							
Field Work: Teaching							
Field Work: Nonteaching							
Remediation						5	5
Facilitation Center		6	6	15	2		29
Field Center							
Faculty: Univ. Prof.			6			2	8
Faculty: Clin. Prof.							
Faculty: Clin. Teacher							
Study Carrel A				9			9
Study Carrel B							
Study Carrel C							
Small Group Room A							
Small Group Room B							

Table 28 (Continued)

Categories	Activities 1	2	3	4	5	6	T
Seminar Room A							
Seminar Room B		6	6				12
Testing Station A							
Testing Station B							
Testing Station C	2					2	4
16mm Film A							
16mm Film B							
16mm Film C							
16mm Film D				$\frac{2}{3}$			2
16mm Film Commercial							
Audio Tape							
2x2 Slides							
Programmed Instruction							
Instructional Packet							
Information Packet							
Program Packet			$\frac{1}{3}$				1
Case Study							
Typed Script							
Simulation							
Books and Paperbacks							
Television Receiver							
Videotape Recorder							
Cassette Recorder							

Table 29

Specifications for Module CD-3 (pages 188-190)

	Activities							
Categories	1	2	3a	3b	3c	4	5	T
Running Total Time	2	8	17	23	32	34	39	39
Chronule	2	6	9	6	9	2	5	
Number of Groups	5	1	5	1	5	5	1	
Number of Sections	20	20	20	20	20	20	20	
Size of Group	1	5	1	5	1	1	1	
Pre or Post Testing	2						5	7
Seminar Meeting								
Small Group Meeting		6		6				12
Independent Study			9		9			18
Field Work: Tutoring								
Field Work: Teaching								
Field Work: Nonteaching								
Remediation							5	5
Facilitation Center	2	6	9	6	9	6	5	43
Field Center								
Faculty: Univ. Prof.		6					2	8
Faculty: Clin. Prof.								
Faculty: Clin. Teacher								
Study Carrel A			9					9
Study Carrel B								
Study Carrel C								
Small Group Room A								
Small Group Room B		6		6				12

Table 29 (Continued)

Categories	1	2	3a	3b	3c	4	5	T
	Activities							
Seminar Room A								
Seminar Room B								
Testing Station A								
Testing Station B								
Testing Station C	2					2		4
16mm Film A								
16mm Film B		$\frac{1}{4}$						1
16mm Film C								
16mm Film D								
16mm Film Commercial								
Audio Tape								
2x2 Slides								
Programmed Instruction								
Instructional Packet					$\frac{1}{3}$			1
Information Packet					$\frac{1}{3}$			1
Program Packet								
Case Study								
Typed Script								
Simulation								
Books and Paperbacks								
Television Receiver								
Videotape Recorder								
Cassette Recorder								

Table 30

Specifications for Module CD-4 (pages 191 through 194)

Categories	Activities									
	1	2	3	4	5	6a	6b	7	8	T
Running Total Time	2	8	20	32	38	44	50	52	57	57
Chronule	2	6	12	12	6	6	6	2	5	
Number of Groups	5	1	1	5	1	5	5	5	1	
Number of Sections	20	20	20	20	20	20	20	20	10	
Size of Group	1	5	5	1	5	1	1	1	1	
Pre or Post Testing	2							2		4
Seminar Meeting										
Small Group Meeting		6	12		6					24
Independent Study				12			6			18
Field Work: Tutoring						6				6
Field Work: Teaching						6				6
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center	2	6	12	12	6			2	2	42
Field Center										
Faculty: Univ. Prof.									2	2
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A										
Study Carrel B										
Study Carrel C										
Small Group Room A		6								6
Small Group Room B			6		6					12

Table 30 (Continued)

	Activities									
Categories	1	2	3	4	5	6a	6b	7	8	T
Seminar Room A										
Seminar Room B										
Testing Station A	2							2		4
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D	$\frac{1}{3}$	$\frac{3}{3}$						$\frac{1}{3}$		5
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet	$\frac{1}{3}$									1
Information Packet	$\frac{1}{3}$									1
Program Packet	$\frac{1}{3}$						$\frac{1}{3}$			2
Case Study										
Typed Script										
Simulation										
Books and Paperbacks										
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 31

Specifications for Module CD-5 (pages 191 through 194)

	Activities									
Categories	1	2	3	4	5	6a	6b	7	8	T
Running Total Time	2	8	20	32	38	44	50	52	57	57
Chronule	2	6	12	12	6	6	6	2	5	
Number of Groups	5	1	1	5	1	5	5	5	1	
Number of Sections	20	20	20	20	20	20	20	20	10	
Size of Group	1	5	5	1	5	1	1	1	1	
Pre or Post Testing	2							2		4
Seminar Meeting										
Small Group Meeting		6	12		6					24
Independent Study				12			6			18
Field Work: Tutoring						6				6
Field Work: Teaching						6				6
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center	2	6	12	12	6			2	2	42
Field Center										
Faculty: Univ. Prof.									2	2
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A										
Study Carrel B										
Study Carrel C										
Small Group Room A		6								6
Small Group Room B			6		6					12

Table 31 (Continued)

Categories	Activities 1	2	3	4	5	6a	6b	7	8	T
Seminar Room A										
Seminar Room B										
Testing Station A	2							2		4
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D	$\frac{1}{3}$	$\frac{3}{3}$						$\frac{1}{3}$		5
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet		$\frac{1}{3}$								1
Information Packet		$\frac{1}{3}$								1
Program Packet		$\frac{1}{3}$					$\frac{1}{3}$			2
Case Study										
Typed Script										
Simulation										
Books and Paperbacks										
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 32

Specifications for Module CD-6 (pages 191 through 194)

Categories	Activities									
	1	2	3	4	5	6a	6b	7	8	T
Running Total Time	2	8	20	32	38	44	50	52	57	57
Chronule	2	6	12	12	6	6	6	2	5	
Number of Groups	5	1	1	5	1	5	5	5	1	
Number of Sections	20	20	20	20	20	20	20	20	10	
Size of Group	1	5	5	1	5	1	1	1	1	
Pre or Post Testing	2							2		4
Seminar Meeting										
Small Group Meeting		6	12		6					24
Independent Study				12			6			18
Field Work: Tutoring						6				6
Field Work: Teaching						6				6
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center	2	6	12	12	6			2	2	42
Field Center										
Faculty: Univ. Prof.									2	2
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A										
Study Carrel B										
Study Carrel C										
Small Group Room A		6								6
Small Group Room B			6		6					12

Table 32 (Continued)

	Activities									
Categories	1	2	3	4	5	6a	6b	7	8	T
Seminar Room A										
Seminar Room B										
Testing Station A	2							2		4
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D	$\frac{1}{3}$	$\frac{3}{3}$						$\frac{1}{3}$		5
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet	$\frac{1}{3}$									1
Information Packet	$\frac{1}{3}$									1
Program Packet	$\frac{1}{3}$						$\frac{1}{3}$			2
Case Study										
Typed Script										
Simulation										
Books and Paperbacks										
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 33

Specifications for Module CD-7 (pages 195 through 197)

	Activities						
Categories	1	2	3	4	5	6	T
Running Total Time	2	11	17	23	25	30	30
Chronule	2	9	6	6	2	5	
Number of Groups	1	1	1	1	1	1	
Number of Sections	100	100	100	100	100	10	
Size of Group	1	1	1	1	1	1	
Pre or Post Testing	2				2		4
Seminar Meeting							
Small Group Meeting							
Independent Study		9	6	6			21
Field Work: Tutoring							
Field Work: Teaching							
Field Work: Nonteaching			6				6
Remediation						5	5
Facilitation Center	2				2		4
Field Center							
Faculty: Univ. Prof.						2	2
Faculty: Clin. Prof.							
Faculty: Clin. Teacher							
Study Carrel A							
Study Carrel B							
Study Carrel C							
Small Group Room A							
Small Group Room B							

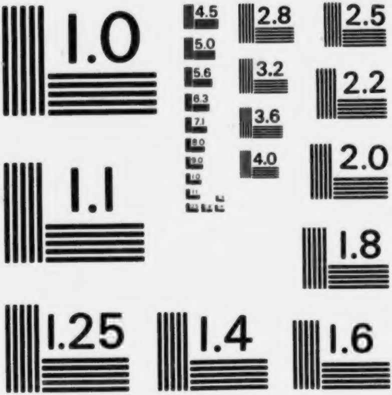
Table 33 (Continued)

Categories	Activities 1	2	3	4	5	6	T
Seminar Room A							
Seminar Room B							
Testing Station A							
Testing Station B							
Testing Station C	2				2		4
16mm Film A							
16mm Film B							
16mm Film C							
16mm Film D							
16mm Film Commercial							
Audio Tape							
2x2 Slides							
Programmed Instruction							
Instructional Packet		$\frac{1}{3}$					1
Information Packet		$\frac{1}{3}$					1
Program Packet			$\frac{1}{3}$				1
Case Study							
Typed Script							
Simulation							
Books and Paperbacks							
Television Receiver							
Videotape Recorder							
Cassette Recorder							

Table 34

Specifications for Module CD-8 (pages 198-200)

	Activities								
Categories	1	2a	2b	2c	3a	3b	4	5	T
Running Total Time	2	8	14	23	32	38	40	45	45
Chronule	2	6	6	9	9	6	2	5	
Number of Groups	15	15	15	15	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	
Size of Group	1	1	1	1	1	15	1	1	
Pre or Post Testing	2						2		4
Seminar Meeting						6			
Small Group Meeting									
Independent Study		6	6	9	9				30
Field Work: Tutoring									
Field Work: Teaching									
Field Work: Nonteaching									
Remediation								5	5
Facilitation Center				9				2	11
Field Center									
Faculty: Univ. Prof.					6			2	8
Faculty: Clin. Prof.									
Faculty: Clin. Teacher									
Study Carrel A									
Study Carrel B									
Study Carrel C									
Small Group Room A									
Small Group Room B									


1.0
4.5
5.0
5.6
6.3
7.1
8.0
9.0
10
11
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.1
1.8
1.25
1.4
1.6

MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS-1963-A

Table 34 (Continued)

	Activities								
Categories	1	2a	2b	2c	3a	3b	4	5	T
Seminar Room A									
Seminar Room B						6			6
Testing Station A									
Testing Station B									
Testing Station C	2						2		4
16mm Film A									
16mm Film B									
16mm Film C									
16mm Film D									
16mm Film Commercial									
Audio Tape									
2x2 Slides									
Programmed Instruction									
Instructional Packet									
Information Packet		$\frac{1}{3}$		$\frac{1}{3}$					2
Program Packet			$\frac{1}{3}$	$\frac{1}{3}$					2
Case Study				$\frac{1}{3}$					1
Typed Script									
Simulation									
Books and Paperbacks					10				10
Television Receiver									
Videotape Recorder									
Cassette Recorder									

Table 35

Specifications for Module CD-9 (pages 201 through 204)

	Activities										
Categories	1	2	3	4	5a	5b	6	7a	7b	8	T
Running Total Time	2	8	17	23	29	35	41	50	59	64	64
Chronule	2	6	9	6	6	6	6	9	9	5	
Number of Groups	15	4	15	4	7	15	4	15	1	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	
Size of Group	1	4	1	4	2	1	4	1	12	1	
Pre or Post Testing	2							9	9		20
Seminar Meeting											
Small Group Meeting		6		6			6				18
Independent Study			9			6					15
Field Work: Tutoring					6						6
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2	6	9	6			6	9	9	2	49
Field Center					6						6
Faculty: Univ. Prof.		6							9	2	17
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A			9								9
Study Carrel B											
Study Carrel C											
Small Group Room A				6			6				12
Small Group Room B		6									6

Table 35 (Continued)

Categories	Activities 1	2	3	4	5a	5b	6	7a	7b	8	T
Seminar Room A								9	9		18
Seminar Room B	2										2
Testing Station A											
Testing Station B											
Testing Station C											
16mm Film A											
16mm Film B											
16mm Film C											
16mm Film D	$\frac{1}{4}$		$\frac{2}{3}$								3
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet			$\frac{1}{3}$								1
Information Packet			$\frac{1}{3}$								1
Program Packet			$\frac{1}{3}$								1
Case Study			$\frac{1}{3}$								1
Typed Script											
Simulation											
Books and Paperbacks											
Television Receiver											
Videotape Recorder					6						6
Cassette Recorder											

Table 36

Specifications for Module CD-10 (pages 205 through 208)

Categories	Activities 1	2	3	4	5a	5b	6	7	8	9	T
Running Total Time	2	5	17	23	26	38	50	56	58	63	63
Chronule	2	3	12	6	3	12	12	6	2	5	
Number of Groups	20	20	20	5	5	20	20	5	20	1	
Number of Sections	5	5	5	5	5	5	5	5	5	5	
Size of Group	1	1	1	4	4	1	1	4	1	1	
Pre or Post Testing	2								2		4
Seminar Meeting											
Small Group Meeting				6	3			7			16
Independent Study		3	12			12	12				
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2	3		6	3			7	2	2	25
Field Center											
Faculty: Univ. Prof.				6				6		2	14
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A		3				12					15
Study Carrel B											
Study Carrel C											
Small Group Room A											
Small Group Room B				6	3						9

Table 36 (Continued)

Categories	Activities 1	2	3	4	5a	5b	6	7	8	9	T
Seminar Room A											
Seminar Room B								6			6
Testing Station A	2								2		4
Testing Station B											
Testing Station C											
16mm Film A											
16mm Film B											
16mm Film C											
16mm Film D	$\frac{1}{3}$					$\frac{3}{4}$			$\frac{1}{3}$		5
16mm Film Commercial		1									1
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet					$\frac{1}{5}$						1
Information Packet											
Program Packet						$\frac{1}{4}$					1
Case Study						$\frac{2}{4}$					2
Typed Script											
Simulation											
Books and Paperbacks			4					4			8
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 37

Specifications for Module CD-11 (pages 209-212)

	Activities														
Categories	1	2	3	4a	4b	5	6	7	8a	8b	9	10	11	12	T
Running Total Time	2	5	8	14	17	23	29	35	44	47	53	59	61	66	66
Chronule	2	3	3	6	3	6	6	6	9	3	6	6	2	5	
Number of Groups	4	4	4	1	1	4	1	1	4	4	4	1	4	1	
Number of Sections	25	25	25	25	25	25	25	25	25	25	25	25	21	10	
Size of Group	1	1	1	4	4	1	4	4	1	1	1	4	1	1	
Pre or Post Testing	2												2		4
Seminar Meeting															
Small Group Meeting				6			6	6				6			24
Independent Study		3	3		3	6			9	3	6				33
Field Work: Tutoring															
Field Work: Teaching															
Field Work: Nonteaching															
Remediation														5	5
Facilitation Center	2		3	6	3		6	6			6	6	2	2	42
Field Center									9						9
Faculty: Univ. Prof.														2	2
Faculty: Clin. Prof.															
Faculty: Clin. Teacher										3					3
Study Carrel A															
Study Carrel B															
Study Carrel C															
Small Group Room A															
Small Group Room B				6	4		4	6				6			26

Table 37 (Continued)

Categories	Activities 1	2	3	4a	4b	5	6	7	8a	8b	9	10	11	12	T
Seminar Room A															
Seminar Room B															
Testing Station A	2												2		4
Testing Station B															
Testing Station C															
16mm Film A															
16mm Film B															
16mm Film C			$\frac{2}{4}$												2
16mm Film D	$\frac{1}{4}$													$\frac{1}{4}$	2
16mm Film Commercial															
Audio Tape															
2x2 Slides															
Programmed Instruction															
Instructional Packet															
Information Packet															
Program Packet															
Case Study															
Typed Script															
Simulation															
Books and Paperbacks															
Television Receiver															
Videotape Recorder															
Cassette Recorder															

Table 38

Specifications for Module CD-12 (pages 213 through 215)

	Activities										
Categories	1	2	3a	3b	4a	4b	5	6	7	8	T
Running Total Time	2	14	20	23	29	35	44	50	52	57	57
Chronule	2	12	6	3	6	6	9	6	2	5	
Number of Groups	15	15	1	15	15	15	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	1	15	1	1	1	1	15	1	1	
Pre or Post Testing	2								2		4
Seminar Meeting			6					6			12
Small Group Meeting											
Independent Study		12		3	6	6	9				36
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2		6	3	6	6		6		2	31
Field Center											
Faculty: Univ. Prof.			6					6		2	14
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A				3							3
Study Carrel B											
Study Carrel C											
Small Group Room A											
Small Group Room B			6					6			12

Table 38 (Continued)

Categories	Activities 1	2	3a	3b	4a	4b	5	6	7	8	T
Seminar Room A											
Seminar Room B											
Testing Station A											
Testing Station B											
Testing Station C	2								2		4
16mm Film A											
16mm Film B											
16mm Film C											
16mm Film D				$\frac{1}{4}$							1
16mm Film Commercial				2							2
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet					$\frac{1}{3}$						1
Information Packet					$\frac{1}{3}$						1
Program Packet					$\frac{1}{3}$						1
Case Study											
Typed Script											
Simulation											
Books and Paperbacks		4					10				14
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 39

Specifications for Module CD-13 (pages 216 through 218)

	Activities						
Categories	1	2	3	4	5	6	T
Running Total Time	2	8	11	17	19	24	24
Chronule	2	6	3	6	2	5	
Number of Groups	5	1	5	1	5	1	
Number of Sections	20	20	20	20	20	20	
Size of Group	1	5	1	5	1	1	
Pre or Post Testing	2				2		4
Seminar Meeting							
Small Group Meeting		6		6			12
Independent Study			3				3
Field Work: Tutoring							
Field Work: Teaching							
Field Work: Nonteaching							
Remediation							
Facilitation Center	2	6		6	2		16
Field Center							
Faculty: Univ. Prof.				6		2	8
Faculty: Clin. Prof.							
Faculty: Clin. Teacher							
Study Carrel A			3				3
Study Carrel B							
Study Carrel C							
Small Group Room A							
Small Group Room B		6		6			12

Table 39 (Continued)

	Activities						
Categories	1	2	3	4	5	6	T
Seminar Room A							
Seminar Room B							
Testing Station A	2				2		4
Testing Station B							
Testing Station C							
16mm Film A							
16mm Film B							
16mm Film C							
16mm Film D	$\frac{1}{3}$					$\frac{1}{3}$	2
16mm Film Commercial			2				2
Audio Tape							
2x2 Slides							
Programmed Instruction							
Instructional Packet		$\frac{1}{3}$					1
Information Packet		$\frac{1}{3}$					1
Program Packet							
Case Study							
Typed Script							
Simulation							
Books and Paperbacks							
Television Receiver							
Videotape Recorder							
Cassette Recorder							

Table 40

Specifications for Module TTP-1 (pages 226 through 228)

Categories	Activities						
	1	2	3	4a	4b	5	T
Running Total Time	2	8	17	19	21	26	26
Chronule	2	6	9	2	2	5	
Number of Groups	1	1	1	1	1	1	
Number of Sections	100	100	100	100	100	10	
Size of Group	1	1	1	1	1	1	
Pre or Post Testing	2			2			4
Seminar Meeting							
Small Group Meeting							
Independent Study		6	9		2		17
Field Work: Tutoring							
Field Work: Teaching							
Field Work: Nonteaching							
Remediation						5	5
Facilitation Center	2	6	9	2			19
Field Center							
Faculty: Univ. Prof.						2	2
Faculty: Clin. Prof.							
Faculty: Clin. Teacher							
Study Carrel A		6	9				15
Study Carrel B							
Study Carrel C							
Small Group Room A							
Small Group Room B							

Table 40 (Continued)

Categories	Activities 1	2	3	4a	4b	5	T
Seminar Room A							
Seminar Room B							
Testing Station A	2						2
Testing Station B							
Testing Station C							
16mm Film A							
16mm Film B							
16mm Film C							
16mm Film D	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{2}{3}$		$\frac{1}{3}$		6
16mm Film Commercial							
Audio Tape							
2x2 Slides		1	1	1			3
Programmed Instruction							
Instructional Packet		$\frac{1}{3}$	$\frac{1}{3}$				2
Information Packet		$\frac{1}{3}$	$\frac{1}{3}$				2
Program Packet			$\frac{1}{3}$				1
Case Study							
Typed Script							
Simulation							
Books and Paperbacks							
Television Receiver							
Videotape Recorder							
Cassette Recorder							

Table 41

Specifications for Module TTP-2 (pages 229-231)

	Activities							
Categories	1	2	3	4	5a	5b	6	T
Running Total Time	2	11	20	26	28	30	35	35
Chronule	2	9	9	6	2	2	5	
Number of Groups	1	1	1	1	1	1	1	
Number of Sections	100	100	100	100	100	100	10	
Size of Group	1	1	1	1	1	1	1	
Pre or Post Testing	2				2			4
Seminar Meeting								
Small Group Meeting								
Independent Study		9	9		2	2		22
Field Work: Tutoring				6				6
Field Work: Teaching								
Field Work: Nonteaching								
Remediation							5	5
Facilitation Center	2	9	9					20
Field Center				6				6
Faculty: Univ. Prof.							2	2
Faculty: Clin. Prof.								
Faculty: Clin. Teacher								
Study Carrel A		9	9					18
Study Carrel B								
Study Carrel C								
Small Group Room A								
Small Group Room B								

Table 41 (Continued)

Categories	Activities							
	1	2	3	4	5a	5b	6	T
Seminar Room A								
Seminar Room B								
Testing Station A	2				2			4
Testing Station B								
Testing Station C								
16mm Film A								
16mm Film B								
16mm Film C								
16mm Film D	$\frac{1}{3}$		$\frac{2}{3}$		$\frac{1}{3}$			4
16mm Film Commercial								
Audio Tape								
2x2 Slides		2						2
Programmed Instruction								
Instructional Packet		$\frac{1}{3}$	$\frac{1}{3}$					2
Information Packet		$\frac{1}{3}$	$\frac{1}{3}$					2
Program Packet		$\frac{1}{3}$	$\frac{1}{3}$					2
Case Study								
Typed Script		$\frac{1}{5}$						1
Simulation								
Books and Paperbacks				1				1
Television Receiver								
Videotape Recorder								
Cassette Recorder				2				2

Table 42

Specifications for Module TTP-3 (pages 232-234)

	Activities								
Categories	1	2	3a	3b	4	5a	5b.	6	T
Running Total Time	2	11	20	23	26	30	32	37	37
Chronule	2	9	9	3	3	4	2	5	
Number of Groups	1	1	1	1	1	1	1	1	
Number of Sections	100	100	100	100	100	100	100	10	
Size of Group	1	1	1	1	1	1	1	1	
Pre or Post Testing	2						2		4
Seminar Meeting									
Small Group Meeting									
Independent Study		9	9	3		4			25
Field Work: Tutoring					3				3
Field Work: Teaching									
Field Work: Nonteaching									
Remediation								5	5
Facilitation Center	2	9	9				2	2	24
Field Center					3				3
Faculty: Univ. Prof.								2	2
Faculty: Clin. Prof.									
Faculty: Clin. Teacher									
Study Carrel A		9	9						18
Study Carrel B									
Study Carrel C									
Small Group Room A									
Small Group Room B									

Table 42 (Continued)

	Activities								
Categories	1	2	3a	3b	4	5a	5b	6	T
Seminar Room A									
Seminar Room B									
Testing Station A	2						2		4
Testing Station B									
Testing Station C									
16mm Film A									
16mm Film B									
16mm Film C									
16mm Film D	$\frac{1}{3}$		$\frac{2}{3}$				$\frac{1}{3}$		4
16mm Film Commercial									
Audio Tape									
2x2 Slides		2							2
Programmed Instruction									
Instructional Packet		$\frac{1}{3}$	$\frac{1}{3}$						2
Information Packet									
Program Packet		$\frac{1}{3}$	$\frac{1}{3}$						2
Case Study									
Typed Script									
Simulation									
Books and Paperbacks									
Television Receiver									
Videotape Recorder									
Cassette Recorder		2							2

Table 43

Specifications for Module TTP-4 (pages 235 through 238)

	Activities									
Categories	1	2	3a	3b	3c	4	5a	5b	6	T
Running Total Time	2	11	20	23	26	29	33	35	40	40
Chronule	2	9	9	3	3	3	4	2	5	
Number of Groups	1	1	1	1	1	1	1	1	1	
Number of Sections	100	100	100	100	100	100	100	100	100	
Size of Group	1	1	1	1	1	1	1	1	1	
Pre or Post Testing	2							2		4
Seminar Meeting										
Small Group Meeting										
Independent Study		9	9	3	3		4			28
Field Work: Tutoring						3				3
Field Work: Teaching										
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center		9	9	3					2	23
Field Center						3				3
Faculty: Univ. Prof.									2	2
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A										
Study Carrel B										
Study Carrel C										
Small Group Room A		9	9							18
Small Group Room B										

Table 43 (Continued)

	Activities									
Categories	1	2	3a	3b	3c	4	5a	5b	6	T
Seminar Room A										
Seminar Room B										
Testing Station A	2							2		4
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D	$\frac{1}{3}$		$\frac{2}{3}$					$\frac{1}{3}$		4
16mm Film Commercial										
Audio Tape	$\frac{2}{3}$									2
2x2 Slides	$\frac{2}{3}$									2
Programmed Instruction										
Instructional Packet	$\frac{1}{3}$	$\frac{1}{3}$								2
Information Packet	$\frac{1}{3}$	$\frac{1}{3}$								2
Program Packet	$\frac{1}{3}$	$\frac{1}{3}$								2
Case Study										
Typed Script										
Simulation										
Books and Paperbacks		3								3
Television Receiver										
Videotape Recorder										
Cassette Recorder		2								2

Table 44

Specifications for Module TTP-5 (pages 239 through 241)

	Activities					
Categories	1	2	3a	3b	4	T
Running Total Time	2	11	13	14	19	19
Chronule	2	9	2	1	5	
Number of Groups	1	1	1	1	1	
Number of Sections	100	100	100	100	10	
Size of Group	1	1	1	1	1	
Pre or Post Testing	2		2			4
Seminar Meeting						
Small Group Meeting						
Independent Study		9		1		10
Field Work: Tutoring						
Field Work: Teaching						
Field Work: Nonteaching						
Remediation					5	5
Facilitation Center	2		2			4
Field Center						
Faculty: Univ. Prof.					2	2
Faculty: Clin. Prof.						
Faculty: Clin. Teacher						
Study Carrel A						
Study Carrel B						
Study Carrel C						
Small Group Room A		9				9
Small Group Room B						

Table 44 (Continued)

	Activities					
Categories	1	2	3a	3b	4	T
Seminar Room A						
Seminar Room B						
Testing Station A	2		2			4
Testing Station B						
Testing Station C						
16mm Film A						
16mm Film B						
16mm Film C						
16mm Film D						
16mm Film Commercial						
Audio Tape						
2x2 Slides	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$			3
Programmed Instruction						
Instructional Packet		$\frac{1}{3}$				1
Information Packet		$\frac{1}{3}$				1
Program Packet		$\frac{1}{3}$				1
Case Study						
Typed Script						
Simulation						
Books and Paperbacks						
Television Receiver						
Videotape Recorder						
Cassette Recorder						

POOR ORIGINAL COPY - BEST AVAILABLE AT TIME FILMED

Table 45

Specifications for TTP-6 (pages 242 through 244)

Categories	Activities									
	1	2a	2b	2c	3	4	5a	5b	6	T
Running Total Time	2	8	14	20	29	32	34	35	40	40
Chronule	2	6	6	6	9	3	2	1	5	
Number of Groups	1	1	1	1	1	1	1	1	1	
Number of Sections	100	100	100	100	100	100	100	100	10	
Size of Group	1	1	1	1	1	1	1	1	1	
Pre or Post Testing	2						2			4
Seminar Meeting										
Small Group Meeting										
Independent Study		6	6	6	9	3				30
Field Work: Tutoring						3				3
Field Work: Teaching										
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center	2	6			9		2		2	21
Field Center										
Faculty: Univ. Prof.									2	2
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A		6			9					15
Study Carrel B										
Study Carrel C										
Small Group Room A										
Small Group Room B										

Table 45 (Continued)

	Activities									
Categories	1	2a	2b	2c	3	4	5a	5b	6	T
Seminar Room A										
Seminar Room B										
Testing Station A	2						2			4
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D										
16mm Film Commercial										
Audio Tape										
2x2 Slides	$\frac{1}{2}$	$\frac{1}{2}$				$\frac{1}{2}$				3
Programmed Instruction										
Instructional Packet		$\frac{1}{3}$				$\frac{1}{3}$				2
Information Packet		$\frac{1}{3}$								1
Program Packet		$\frac{1}{3}$				$\frac{1}{3}$				2
Case Study						$\frac{2}{4}$				2
Typed Script										
Simulation										
Books and Paperbacks		4								4
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 46

Specifications for Module TTP-7 (pages 245 through 247)

	Activities										
Categories	1	2a	2b	2c	3	4a	4b	5a	5b	6	T
Running Total Time	2	11	17	26	38	41	47	49	51	56	56
Chronule	2	9	6	9	12	3	6	2	2	5	
Number of Groups	1	1	1	1	1	1	1	1	1	1	
Number of Sections	100	100	100	100	100	100	100	100	100	100	
Size of Group	1	1	1	1	1	1	1	1	1	1	
Pre or Post Testing	2							2			4
Seminar Meeting											
Small Group Meeting											
Independent Study		9	6	9	12	3	6				45
Field Work: Tutoring			6			3					9
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2	9			12			2		2	27
Field Center											
Faculty: Univ. Prof.										2	2
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A		9			12						21
Study Carrel B											
Study Carrel C											
Small Group Room A											
Small Group Room B											

Table 46 (Continued)

Categories	Activities 1	2a	2b	2c	3	4a	4b	5a	5b	6	T
Seminar Room A											
Seminar Room B											
Testing Station A	2							2			4
Testing Station B											
Testing Station C											
16mm Film A											
16mm Film B											
16mm Film C											
16mm Film D											
16mm Film Commercial											
Audio Tape	$\frac{1}{2}$				$\frac{1}{2}$			$\frac{1}{2}$			3
2x2 Slides	$\frac{1}{2}$				$\frac{1}{2}$			$\frac{1}{2}$			3
Programmed Instruction											
Instructional Packet		$\frac{1}{3}$			$\frac{1}{4}$						2
Information Packet		$\frac{1}{3}$			$\frac{1}{3}$						2
Program Packet		$\frac{1}{4}$			$\frac{1}{5}$						2
Case Study		$\frac{1}{3}$			$\frac{4}{3}$						5
Typed Script											
Simulation											
Books and Paperbacks		4									4
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 47

Specifications for Module TTP-8 (pages 249 through 252)

	Activities										
Categories	1	2a	2b	2c	3a	3b	4	5a	5b	6	T
Running Total Time	2	11	17	26	32	38	44	46	48	53	53
Chronule	2	9	6	9	6	6	6	2	2	5	
Number of Groups	1	1	1	1	1	1	1	1	1	1	
Number of Sections	100	100	100	100	100	100	100	100	100	10	
Size of Group	1	1	1	1	1	1	1	1	1	1	
Pre or Post Testing	2							2			4
Seminar Meeting											
Small Group Meeting											
Independent Study		9	6	9	6	6	6				42
Field Work: Tutoring			6								6
Field Work: Teaching											
Field Work: Nonteaching							6				6
Remediation										5	5
Facilitation Center		9			6						15
Field Center											
Faculty: Univ. Prof.										2	2
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A		9									9
Study Carrel B					6						6
Study Carrel C											
Small Group Room A											
Small Group Room B											

Table 47 (Continued)

Categories	Activities										
	1	2a	2b	2c	3a	3b	4	5a	5b	6	T
Seminar Room A											
Seminar Room B											
Testing Station A											
Testing Station B											
Testing Station C											
16mm Film A											
16mm Film B											
16mm Film C											
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides	$\frac{1}{2}$	$\frac{1}{2}$						$\frac{1}{2}$			3
Programmed Instruction											
Instructional Packet		$\frac{1}{3}$									1
Information Packet		$\frac{1}{3}$							$\frac{1}{3}$		2
Program Packet		$\frac{1}{3}$									1
Case Study					$\frac{1}{5}$						1
Typed Script											
Simulation											
Books and Paperbacks											
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 48

Specifications for Module TTP-9 (pages 253-255)

Categories	Activities								
	1	2	3a	3b	4a	4b	5	6	T
Running Total Time	2	11	17	26	32	41	50	55	55
Chronule	2	9	6	9	6	9	9	5	
Number of Groups	4	1	4	1	2	1	1	1	
Number of Sections	25	25	25	25	25	25	25	10	
Size of Group	1	4	1	4	2	4	4	1	
Pre or Post Testing	2						9		11
Seminar Meeting									
Small Group Meeting		9		9		9			27
Independent Study			6						6
Field Work: Tutoring					6				6
Field Work: Teaching									
Field Work: Nonteaching									
Remediation								5	5
Facilitation Center	2	9		9		9	9		38
Field Center					6			2	8
Faculty: Univ. Prof.									
Faculty: Clin. Prof.								2	2
Faculty: Clin. Teacher									
Study Carrel A									
Study Carrel B									
Study Carrel C									
Small Group Room A				9		9	9		27
Small Group Room B		9							9

Table 48 (Continued)

	Activities								
Categories	1	2	3a	3b	4a	4b	5	6	T
Seminar Room A									
Seminar Room B									
Testing Station A	2								2
Testing Station B									
Testing Station C									
16mm Film A									
16mm Film B									
16mm Film C									
16mm Film D	$\frac{1}{3}$								1
16mm Film Commercial									
Audio Tape									
2x2 Slides									
Programmed Instruction									
Instructional Packet		$\frac{1}{3}$	$\frac{1}{2}$						2
Information Packet		$\frac{1}{3}$	$\frac{1}{4}$						2
Program Packet			$\frac{1}{4}$						1
Case Study		$\frac{1}{4}$	$\frac{1}{4}$						2
Typed Script									
Simulation									
Books and Paperbacks									
Television Receiver									
Videotape Recorder					6				6
Cassette Recorder									

Table 49

Specifications for Module TTP-10 (pages 256-258)

	Activities				
Categories	1	2	3	4	T
Running Total Time	2	17	19	24	24
Chronule	2	15	2	5	
Number of Groups	1	1	1	1	
Number of Sections	100	100	100	10	
Size of Group	1	1	1	1	
Pre or Post Testing	2		2		
Seminar Meeting					
Small Group Meeting					
Independent Study		15			15
Field Work: Tutoring					
Field Work: Teaching					
Field Work: Nonteaching					
Remediation				5	5
Facilitation Center	2		2	2	6
Field Center					
Faculty: Univ. Prof.				2	2
Faculty: Clin. Prof.					
Faculty: Clin. Teacher					
Study Carrel A					
Study Carrel B					
Study Carrel C					
Small Group Room A					
Small Group Room B					

Table 49 (Continued)

Categories	Activities 1	2	3	4	T
Seminar Room A					
Seminar Room B					
Testing Station A					
Testing Station B					
Testing Station C	2		2		4
16mm Film A					
16mm Film B					
16mm Film C					
16mm Film D					
16mm Film Commercial					
Audio Tape					
2x2 Slides					
Programmed Instruction					
Instructional Packet		$\frac{1}{3}$			1
Information Packet		$\frac{1}{3}$			1
Program Packet		$\frac{1}{3}$			1
Case Study					
Typed Script					
Simulation					
Books and Paperbacks					
Television Receiver					
Videotape Recorder					
Cassette Recorder					

Table 50

Specifications for Module TTP-11 (pages 259-262)

	Activities								
Categories	1	2	3	4	5	6	7	8	T
Running Total Time	2	8	20	26	32	41	47	52	52
Chronule	2	6	12	6	6	9	6	5	
Number of Groups	10	1	10	10	1	10	1	1	
Number of Sections	10	10	10	10	10	10	10	10	
Size of Group	1	10	1	1	10	1	10	1	
Pre or Post Testing	2						6		8
Seminar Meeting		6			6				12
Small Group Meeting									
Independent Study			12	6		9			27
Field Work: Tutoring									
Field Work: Teaching									
Field Work: Nonteaching									
Remediation								5	5
Facilitation Center	2	6		6	6		6	2	28
Field Center									
Faculty: Univ. Prof.					6		6	2	14
Faculty: Clin. Prof.									
Faculty: Clin. Teacher									
Study Carrel A				6					6
Study Carrel B									
Study Carrel C									
Small Group Room A									
Small Group Room B		6			6		6		18

Table 50 (Continued)

Categories	1	2	3	4	5	6	7	8	T
				Activities					
Seminar Room A									
Seminar Room B									
Testing Station A									
Testing Station B									
Testing Station C	2								2
16mm Film A									
16mm Film B									
16mm Film C									
16mm Film D									
16mm Film Commercial									
Audio Tape									
2x2 Slides									
Programmed Instruction									
Instructional Packet		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$			3
Information Packet		$\frac{1}{3}$				$\frac{1}{3}$			2
Program Packet		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$			3
Case Study		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$			3
Typed Script									
Simulation									
Books and Paperbacks									
Television Receiver									
Videotape Recorder									
Cassette Recorder									

Table 51

Specifications for Module TTP-12 (pages 263 through 266)

	Activities											
Categories	1	2a	2b	3a	3b	4	5a	5b	6a	6b	7	T
Running Total Time	2	3	9	15	21	30	33	38	47	56	61	61
Chronule	2	1	6	6	6	9	3	5	9	9	5	
Number of Groups	32	8	2	32	32	8	16	16	4	4	1	
Number of Sections	3	3	3	3	3	3	3	3	3	3	10	
Size of Group	1	4	16	1	1	4	2	2	8	8	1	
Pre or Post Testing	2									9		11
Seminar Meeting			6							9		15
Small Group Meeting		1				9			9			19
Independent Study				6	6		3					15
Field Work: Tutoring								5				5
Field Work: Teaching												
Field Work: Nonteaching												
Remediation											5	5
Facilitation Center	2	1	6	6	6	9	3		9	9	2	53
Field Center								5				5
Faculty: Univ. Prof.			6							9	2	17
Faculty: Clin. Prof.												
Faculty: Clin. Teacher												
Study Carrel A				6	6		3		9			24
Study Carrel B												
Study Carrel C												
Small Group Room A						9						9
Small Group Room B		4										4

Table 51 (Continued)

Categories	Activities 1	2a	2b	3a	3b	4	5a	5b	6a	6b	7	T
Seminar Room A									9			9
Seminar Room B			6									6
Testing Station A	2											2
Testing Station B												
Testing Station C												
16mm Film A												
16mm Film B												
16mm Film C												
16mm Film D	$\frac{1}{3}$			$\frac{1}{3}$	$\frac{1}{3}$							3
16mm Film Commercial												
Audio Tape												
2x2 Slides				1	1							2
Programmed Instruction												
Instructional Packet				$\frac{1}{3}$	$\frac{1}{3}$							2
Information Packet				$\frac{1}{3}$								1
Program Packet				$\frac{1}{3}$	$\frac{1}{3}$							2
Case Study					$\frac{1}{3}$							1
Typed Script												
Simulation												
Books and Paperbacks												
Television Receiver												
Videotape Recorder							5					5
Cassette Recorder												

Table 52

Specifications for Module TTP-13 (pages 267-270)

Categories	Activities								
	1	2	3	4a	4b	5a	5b	6	T
Running Total Time	2	5	17	23	32	38	44	49	49
Chronule	2	3	12	6	9	6	6	5	
Number of Groups	4	1	4	1	1	1	1	1	
Number of Sections	25	25	25	25	25	25	25	10	
Size of Group	1	4	1	4	4	4	4	1	
Pre or Post Testing	2						6		8
Seminar Meeting									
Small Group Meeting		3		6	9	6	6		30
Independent Study			12						12
Field Work: Tutoring									
Field Work: Teaching									
Field Work: Nonteaching									
Remediation								5	5
Facilitation Center	2	3	12	6	9	6	6	2	46
Field Center									
Faculty: Univ. Prof.						6	6	2	14
Faculty: Clin. Prof.									
Faculty: Clin. Teacher									
Study Carrel A			12						12
Study Carrel B									
Study Carrel C									
Small Group Room A					9	6	6		21
Small Group Room B		3		6					9

Table 52 (Continued)

	Activities								
Categories	1	2	3	4a	4b	5a	5b	6	T
Seminar Room A									
Seminar Room B									
Testing Station A									
Testing Station B									
Testing Station C									
16mm Film A									
16mm Film B									
16mm Film C									
16mm Film D	$\frac{1}{3}$			$\frac{1}{3}$					2
16mm Film Commercial									
Audio Tape									
2x2 Slides				1					1
Programmed Instruction									
Instructional Packet	$\frac{1}{3}$								1
Information Packet	$\frac{1}{4}$								1
Program Packet	$\frac{1}{4}$				$\frac{4}{3}$				5
Case Study	$\frac{1}{3}$								1
Typed Script									
Simulation									
Books and Paperbacks									
Television Receiver									
Videotape Recorder									
Cassette Recorder									

Table 53

Specifications for Module TTP-14 (pages 271-274)

	Activities																
Categories	1	2	3a	3b	4a	4b	5a	5b	6a	6b	6c	7a	7b	8a	8b	9	T
Running Total Time	2	5	11	17	23	26	30	36	42	48	51	55	61	63	69	74	74
Chronule	2	3	6	6	6	3	4	6	6	6	3	4	6	2	6	5	
Number of Groups	4	1	4	4	1	1	4	1	1	1	1	2	1	4	1	1	
Number of Sections	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	10	
Size of Group	1	4	1	1	4	4	1	4	4	4	4	2	4	1	4	1	
Pre or Post Testing	2													2	1		5
Seminar Meeting																	
Small Group Meeting		3			6	3			6	6	3			2	1		30
Independent Study			6	6			4	6					6				28
Field Work: Tutoring																	
Field Work: Teaching												4					4
Field Work: Nonteaching																	
Remediation																5	5
Facilitation Center	2		6	6	6	3	4	6	6	6	3		6	2	1	2	59
Field Center												4					4
Faculty: Univ. Prof.														2		2	4
Faculty: Clin. Prof.														2	6		8
Faculty: Clin. Teacher																	
Study Carrel A			6														6
Study Carrel B																	
Study Carrel C																	
Small Group Room A							4	6			6			2	6		24
Small Group Room B		3			6	3			6	6							24

Table 53 (Continued)

Categories	1	2	3a	3b	4a	4b	5a	5b	6a	6b	6c	7a	7b	8a	8b	9	T
Seminar Room A																	
Seminar Room B																	
Testing Station A	2																2
Testing Station B																	
Testing Station C																	
16mm Film A																	
16mm Film B																	
16mm Film C																	
16mm Film D	$\frac{1}{4}$		$\frac{1}{4}$	$\frac{2}{4}$			$\frac{1}{4}$										5
16mm Film Commercial																	
Audio Tape																	
2x2 Slides			1														1
Programmed Instruction																	
Instructional Packet		$\frac{1}{3}$	$\frac{1}{3}$								$\frac{1}{3}$						3
Information Packet		$\frac{1}{3}$	$\frac{1}{3}$														2
Program Packet			$\frac{1}{3}$	$\frac{1}{4}$													2
Case Study																	
Typed Script																	
Simulation																	
Books and Paperbacks																	
Television Receiver																	
Videotape Recorder												4					4
Cassette Recorder																	

Table 54

Specifications for TTP-15 (pages 275-278)

	Activities																
Categories	1	2	3a	3b	4a	4b	5a	5b	6a	6b	6c	7a	7b	8a	8b	9	T
Running Total Time	2	5	11	20	26	29	35	41	47	50	53	57	63	65	67	70	70
Chronule	2	3	6	9	6	3	6	6	6	3	3	4	6	2	2	3	
Number of Groups	4	1	4	4	1	1	4	1	1	1	1	2	1	1	1	1	
Number of Sections	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	10	
Size of Group	1	4	1	1	4	4	1	4	4	4	4	2	4	4	4	1	
Pre or Post Testing	2													2	2		6
Seminar Meeting																	
Small Group Meeting		3			6	3			6	6	6		6	2	2		40
Independent Study			6	9			6	6									27
Field Work: Tutoring																	
Field Work: Teaching												4					4
Field Work: Nonteaching																	
Remediation																5	5
Facilitation Center	2	3	6	9	6	3	6	6	6	6	6		6	2	2	2	71
Field Center												4					
Faculty: Univ. Prof.						3										2	5
Faculty: Clin. Prof.																	
Faculty: Clin. Teacher																	
Study Carrel A			6	9													15
Study Carrel B																	
Study Carrel C																	
Small Group Room A							6	6	6				6				24
Small Group Room B		3			6	3				3	3						18

Table 54 (Continued)

Categories	Activities 1	2	3a	3b	4a	4b	5a	5b	6a	6b	6c	7a	7b	8a	8b	9	T
Seminar Room A																	
Seminar Room B																	
Testing Station A	2													2			4
Testing Station B																	
Testing Station C																	
16mm Film A																	
16mm Film B																	
16mm Film C																	
16mm Film D	$\frac{1}{4}$		$\frac{1}{4}$	$\frac{2}{4}$			$\frac{1}{2}$							$\frac{1}{4}$			6
16mm Film Commercial																	
Audio Tape																	
2x2 Slides			1	1													2
Programmed Instruction																	
Instructional Packet		$\frac{1}{3}$		$\frac{1}{4}$							$\frac{1}{3}$						3
Information Packet		$\frac{1}{3}$															1
Program Packet			$\frac{1}{3}$	$\frac{1}{3}$													2
Case Study			$\frac{1}{3}$	$\frac{2}{4}$													3
Typed Script																	
Simulation																	
Books and Paperbacks																	
Television Receiver																	
Videotape Recorder												1					1
Cassette Recorder																	

Table 55

Specifications for Module TTP-16 (pages 279-282)

	Activities															
Categories	1	2	3a	3b	4a	4b	5a	5b	5c	6a	6b	7a	7b	8a	8b	9	T
Running Total Time	2	5	11	23	26	29	32	35	41	47	50	53	56	58	61	66	66
Chronuie	2	3	6	12	3	3	3	3	6	6	3	3	3	2	3	5	
Number of Groups	4	1	4	4	1	1	4	4	1	1	1	1	4	4	4	1	
Number of Sections	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	10	
Size of Group	1	4	1	1	4	4	1	1	4	4	4	4	1	1	1	1	
Pre or Post Testing	2													2			4
Seminar Meeting																	
Small Group Meeting		3			3	3			6	6	3	3					27
Independent Study			6	12			3	3					3				27
Field Work: Tutoring																	
Field Work: Teaching															3		3
Field Work: Nonteaching																	
Remediation																5	5
Facilitation Center	2	3	6	12	3	3	3	3	6	6	3	3	3	2		2	60
Field Center															3		3
Faculty: Univ. Prof.																2	2
Faculty: Clin. Prof.																	
Faculty: Clin. Teacher															3		3
Study Carrel A							3					3					6
Study Carrel B																	
Study Carrel C																	
Small Group Room A								3	6	6							15
Small Group Room B					3	3											6

Table 55 (Continued)

Categories	1	2	3a	3b	4a	4b	5a	5b	5c	6a	6b	7a	7b	8a	8b	9	T
	Activities																
Seminar Room A																	
Seminar Room B																	
Testing Station A	2													2			4
Testing Station B																	
Testing Station C																	
16mm Film A																	
16mm Film B																	
16mm Film C							$\frac{1}{3}$										1
16mm Film D	$\frac{1}{4}$													$\frac{1}{4}$			2
16mm Film Commercial																	
Audio Tape																	
2x2 Slides																	
Programmed Instruction																	
Instructional Packet	$\frac{1}{3}$																1
Information Packet																	
Program Packet																	
Case Study																	
Typed Script																	
Simulation																	
Books and Paperbacks																	
Television Receiver																	
Videotape Recorder												3					3
Cassette Recorder																	

Table 56

Specifications for Module PST-1 (pages 286-288)

Categories	Activities							
	1	2a	2b	2c	2d	3	4	T
Running Total Time	2	14	104	114	129	131	136	136
Chronule	2	12	90	10	15	2	5	
Number of Groups	15	15	1	1	15	15	2	
Number of Sections	7	7	7	7	7	7	7	
Size of Group	1	1	15	15	1	1	1	
Pre or Post Testing	2					2		4
Seminar Meeting			90	10				100
Small Group Meeting								
Independent Study		12			15			27
Field Work: Tutoring								
Field Work: Teaching								
Field Work: Nonteaching								
Remediation							5	5
Facilitation Center	2		90	10		2		104
Field Center								
Faculty: Univ. Prof.			90	10				100
Faculty: Clin. Prof.								
Faculty: Clin. Teacher								
Study Carrel A								
Study Carrel B								
Study Carrel C								
Small Group Room A								
Small Group Room B								

Table 56 (Continued)

	Activities							
Categories	1	2a	2b	2c	2d	3	4	T
Seminar Room A								
Seminar Room B			90	10				100
Testing Station A								
Testing Station B								
Testing Station C	2					2		4
16mm Film A								
16mm Film B								
16mm Film C								
16mm Film D								
16mm Film Commercial								
Audio Tape								
2x2 Slides								
Programmed Instruction								
Instructional Packet								
Information Packet								
Program Packet								
Case Study								
Typed Script								
Simulation								
Books and Paperbacks		10						10
Television Receiver								
Videotape Recorder								
Cassette Recorder								

Table 57

Specifications for PST-2 (pages 289-293)

Categories	Activities 1	2	3	4	5	6a	6b	7	8	9	10
Running Total Time	2	8	20	26	38	44	50	56	62	71	77
Chronule	2	6	12	6	12	6	6	6	6	9	6
Number of Groups	15	1	15	1	15	1	15	15	1	15	1
Number of Sections	7	7	7	7	7	7	7	7	7	7	7
Size of Group	1	15	1	15	1	15	1	1	15	1	15
Pre or Post Testing	2										
Seminar Meeting		6		6		6			6		6
Small Group Meeting											
Independent Study			12		12		6	6		9	
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation											
Facilitation Center	2	6		6		6	6	6	6		6
Field Center											
Faculty: Univ. Prof.		6		6		6			6		6
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A							6	5			
Study Carrel B											
Study Carrel C											
Small Group Room A											
Small Group Room B		6		6		6			6		6

Table 57 (Continued)

	Activities										
Categories	1	2	3	4	5	6a	6b	7	8	9	10
Seminar Room A											
Seminar Room B											
Testing Station A	2										
Testing Station B											
Testing Station C											
16mm Film A											
16mm Film B											
16mm Film C											
16mm Film D	$\frac{1}{3}$						$\frac{8}{4}$	$\frac{3}{4}$			
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet	$\frac{1}{3}$										
Information Packet	$\frac{1}{3}$										
Program Packet											
Case Study											
Typed Script											
Simulation											
Books and Paperbacks			4		4					3	
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 57 (Continued)

Categories	Activities T1a	T1b	T2	T3a	T3b	T3c	T4	T5	T6	T
Running Total Time	82	90	96	101	113	119	125	127	132	132
Chronule	5	8	6	5	12	6	6	2	5	
Number of Groups	15	15	1	15	15	1	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	10	
Size of Group	1	1	15	1	1	15	15	1	1	
Pre or Post Testing								2		4
Seminar Meeting			6			6	6			48
Small Group Meeting										
Independent Study	5	5		5	12					72
Field Work: Tutoring										
Field Work: Teaching										
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center	5	5	6	5		6	6	2	2	81
Field Center										
Faculty: Univ. Prof.			6			6	6		2	50
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A	5			5						21
Study Carrel B										
Study Carrel C										
Small Group Room A										
Small Group Room B			6			6	6			48

Table 57 (Continued)

Categories	Activities 11a	11b	12	13a	13b	13c	14	15	16	T
Seminar Room A										
Seminar Room B										
Testing Station A								2		4
Testing Station B										
Testing Station C										
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D	$\frac{3}{4}$			$\frac{3}{4}$				$\frac{1}{3}$		19
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet										1
Information Packet										1
Program Packet										
Case Study										
Typed Script										
Simulation										
Books and Paperbacks										11
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 58

Specifications for PST-3 (pages 294-297)

	Activities																
Categories	1	2	3	4a	4b	5	6	7	8a	8b	9	10a	10b	11	12	13	T
Running Total Time	2	8	20	26	34	40	52	58	63	72	78	83	95	101	103	108	108
Chronule	2	6	12	6	8	6	12	6	5	9	6	5	12	6	2	5	
Number of Groups	15	1	15	15	15	1	15	1	15	15	1	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	1	1	15	1	15	1	1	15	15	1	15	1	1	
Pre or Post Testing	2														2		4
Seminar Meeting		6				6		6			6			6			30
Small Group Meeting																	
Independent Study			12	6	8		12		5	9		5	12				69
Field Work: Tutoring																	
Field Work: Teaching																	
Field Work: Nonteaching																	
Remediation																5	5
Facilitation Center	2	6		6		6		6	5		6	5		6	2	2	52
Field Center																	
Faculty: Univ. Prof.		6				6		6			6			6		2	32
Faculty: Clin. Prof.																	
Faculty: Clin. Teacher																	
Study Carrel A				6					5			5					16
Study Carrel B																	
Study Carrel C																	
Small Group Room A																	
Small Group Room B																	

Table 58 (Continued)

Categories	Activities 1	2	3	4a	4b	5	6	7	8a	8b	9	10a	10b	11	12	13	T
Seminar Room A																	
Seminar Room B		6				6		6			6			6			30
Testing Station A	2														2		4
Testing Station B																	
Testing Station C																	
16mm Film A																	
16mm Film B																	
16mm Film C																	
16mm Film D	$\frac{1}{3}$			$\frac{4}{4}$					$\frac{3}{4}$			$\frac{3}{4}$			$\frac{1}{4}$		12
16mm Film Commercial																	
Audio Tape																	
2x2 Slides																	
Programmed Instruction																	
Instructional Packet		$\frac{1}{3}$			$\frac{1}{3}$												2
Information Packet		$\frac{1}{3}$															1
Program Packet																	
Case Study																	
Typed Script																	
Simulation																	
Books and Paperbacks			5				5										10
Television Receiver																	
Videotape Recorder																	
Cassette Recorder																	

Table 59

Specifications for PST-4 (pages 298-301)

	Activities														
Categories	1	2	3	4a	4b	5	6	7	8a	8b	8c	9	10	11	T
Running Total Time	2	8	20	26	34	40	48	54	57	63	75	81	83	88	88
Chronule	2	6	12	6	8	6	8	6	3	6	12	6	2	5	
Number of Groups	15	1	15	15	15	1	15	1	15	15	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	1	1	15	1	15	1	1	1	15	1	1	
Pre or Post Testing	2												2		4
Seminar Meeting		6				6		6				6			24
Small Group Meeting															
Independent Study			12	6	8		8		3	6	12				55
Field Work: Tutoring															
Field Work: Teaching															
Field Work: Nonteaching															
Remediation														5	5
Facilitation Center	2	6		6		6		6	3			6	2	2	39
Field Center															
Faculty: Univ. Prof.		6				6		6						2	20
Faculty: Clin. Prof.															
Faculty: Clin. Teacher															
Study Carrel A				6					3			6			15
Study Carrel B															
Study Carrel C															
Small Group Room A															
Small Group Room B		6				6		6							18

Table 59 (Continued)

Categories	Activities 1	2	3	4a	4b	5	6	7	8a	8b	8c	9	10	11	T
Seminar Room A															
Seminar Room B															
Testing Station A	2												2		4
Testing Station B															
Testing Station C															
16mm Film A															
16mm Film B															
16mm Film C															
16mm Film D	$\frac{1}{4}$			$\frac{4}{4}$					$\frac{1}{4}$				$\frac{1}{4}$		7
16mm Film Commercial															
Audio Tape															
2x2 Slides															
Programmed Instruction															
Instructional Packet	$\frac{1}{3}$														1
Information Packet	$\frac{1}{3}$														1
Program Packet															
Case Study															
Typed Script															
Simulation															
Books and Paperbacks			5				3								8
Television Receiver															
Videotape Recorder															
Cassette Recorder															

Table 60

Specifications for Module PST-5 (pages 302-305)

	Activities																	
Categories	1	2	3	4a	4b	5	6	7	8	9	10	11a	11b	11c	12	13	14	T
Running Total Time	2	8	20	26	38	44	53	77	83	92	98	99	102	114	120	122	127	127
Chronule	2	6	12	6	12	6	9	24	6	9	6	1	3	12	6	2	5	
Number of Groups	15	1	15	15	15	1	15	15	1	1	1	15	15	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	1	1	15	1	1	15	15	15	1	1	1	15	1	1	
Pre or Post Testing	2															2		4
Seminar Meeting		6				6			6	9	6				6			39
Small Group Meeting																		
Independent Study			12	6	12		9	24					3	12				78
Field Work: Tutoring												1						1
Field Work: Teaching																		
Field Work: Nonteaching																		
Remediation																	5	5
Facilitation Center	2	6		6		6			6	9	6		3		6	2	2	54
Field Center												1						1
Faculty: Univ. Prof.		6				6			6		6				6		2	32
Faculty: Clin. Prof.																		
Faculty: Clin. Teacher																		
Study Carrel A				6									3					9
Study Carrel B																		
Study Carrel C																		
Small Group Room A																		
Small Group Room B		6				6				9	6				6			33

Table 60 (Continued)

Categories	Activities 1	2	3	4a	4b	5	6	7	8	9	10	11a	11b	11c	12	13	14	T
Seminar Room A																		
Seminar Room B																		
Testing Station A	2															2		4
Testing Station B																		
Testing Station C																		
16mm Film A																		
16mm Film B																		
16mm Film C																		
16mm Film D	1/4			4/4												1/4		6
16mm Film Commercial																		
Audio Tape																		
2x2 Slides																		
Programmed Instruction								1/5										1
Instructional Packet	1/3							1/3										2
Information Packet	1/3							1/3										2
Program Packet								1/3										1
Case Study																		
Typed Script																		
Simulation																		
Books and Paperbacks			5				4											9
Television Receiver																		
Videotape Recorder												1						1
Cassette Recorder																		

Table 61

Specifications for Module PST-6 (pages 306-309)

	Activities												
Categories	1	2	3	4a	4b	4c	5	6a	6b	7	8	9	T
Running Total Time	2	8	20	26	32	35	41	44	59	65	67	72	72
Chronule	2	6	12	6	6	3	6	3	15	6	2	5	
Number of Groups	15	1	15	15	15	15	1	15	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	1	1	1	15	1	1	15	1	1	
Pre or Post Testing	2										2		4
Seminar Meeting		6					6			6			18
Small Group Meeting													
Independent Study			12	6	6	3		3	15				45
Field Work: Tutoring													
Field Work: Teaching													
Field Work: Nonteaching													
Remediation												5	5
Facilitation Center	2	6		6	6		6	3		6	2	2	39
Field Center													
Faculty: Univ. Prof.		6					6			6		2	20
Faculty: Clin. Prof.													
Faculty: Clin. Teacher													
Study Carrel A				6	6			3					15
Study Carrel B													
Study Carrel C													
Small Group Room A													
Small Group Room B													

Table 61 (Continued)

	Activities												
Categories	1	2	3	4a	4b	4c	5	6a	6b	7	8	9	T
Seminar Room A													
Seminar Room B													
Testing Station A	2										2		4
Testing Station B													
Testing Station C													
16mm Film A													
16mm Film B													
16mm Film C													
16mm Film D	$\frac{1}{4}$			$\frac{2}{4}$				$\frac{1}{4}$			$\frac{1}{4}$		5
16mm Film Commercial													
Audio Tape													
2x2 Slides													
Programmed Instruction													
Instructional Packet		$\frac{1}{3}$											1
Information Packet		$\frac{1}{3}$											1
Program Packet													
Case Study													
Typed Script													
Simulation													
Books and Paperbacks			5										5
Television Receiver													
Videotape Recorder													
Cassette Recorder													

Table 62

Specifications for PST-7 (pages 310-313)

Categories	Activities 1	2	3	4a	4b	5	6a	6b	7	8	9a	9b	10	11	12	13	T
Running Total Time	2	8	23	26	29	35	38	40	46	49	55	70	76	78	80	83	83
Chronule	2	6	15	3	3	6	3	2	6	3	6	15	6	2	2	3	
Number of Groups	15	1	15	1	15	1	15	15	1	15	1	15	1	15	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	1	15	1	15	1	15	1	1	1	
Pre or Post Testing	2														2		4
Seminar Meeting		6		3		6			6		6		6	2			35
Small Group Meeting																	
Independent Study			15		3		3	2		3		15					41
Field Work: Tutoring																	
Field Work: Teaching																	
Field Work: Nonteaching																	
Remediation																5	5
Facilitation Center	2	6		3		6	3		6	3	6		6	2	2	2	47
Field Center																	
Faculty: Univ. Prof.		6				6			6		6		6		2	2	34
Faculty: Clin. Prof.																	
Faculty: Clin. Teacher																	
Study Carrel A							3			3							6
Study Carrel B																	
Study Carrel C																	
Small Group Room A																	
Small Group Room B		6				6			6		6		6				30

Table 62 (Continued)

Categories	Activities 1	2	3	4a	4b	5	6a	6b	7	8	9a	9b	10	11	12	13	T
Seminar Room A				6													6
Seminar Room B																	
Testing Station A																	
Testing Station B																	
Testing Station C	2														2		4
16mm Film A				$\frac{1}{3}$			$\frac{1}{3}$			$\frac{1}{3}$							3
16mm Film B																	
16mm Film C																	
16mm Film D																	
16mm Film Commercial																	
Audio Tape																	
2x2 Slides																	
Programmed Instruction																	
Instructional Packet																	
Information Packet																	
Program Packet																	
Case Study																	
Typed Script																	
Simulation																	
Books and Paperbacks						5											5
Television Receiver																	
Videotape Recorder																	
Cassette Recorder																	

Table 63

Specifications for Module SCF-1 (pages 328-332)

Categories	Activities 1	2	3	4	5	6	7	8	9	10	11	12	T
Running Total Time	2	7	25	30	36	41	53	58	76	81	83	88	88
Chronule	2	5	18	5	6	5	12	5	18	5	2	5	
Number of Groups	15	1	15	1	2	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	7	15	1	15	1	15	1	1	
Pre or Post Testing	2										2		4
Seminar Meeting		5		5		6		5		5			26
Small Group Meeting					6								6
Independent Study			18				12		18				48
Field Work: Tutoring													
Field Work: Teaching													
Field Work: Nonteaching													
Remediation												5	5
Facilitation Center	2										2		4
Field Center													
Faculty: Univ. Prof.		5		5		5		5		5		2	27
Faculty: Clin. Prof.													
Faculty: Clin. Teacher													
Study Carrel A													
Study Carrel B													
Study Carrel C													
Small Group Room A					6								6
Small Group Room B													

Table 63 (Continued)

Categories	Activities 1	2	3	4	5	6	7	8	9	10	11	12	T
Seminar Room A													
Seminar Room B		5		5		5		5		5			25
Testing Station A													
Testing Station B	2										2		4
Testing Station C													
16mm Film A													
16mm Film B													
16mm Film C													
16mm Film D					$\frac{20}{5}$								20
16mm Film Commercial													
Audio Tape													
2x2 Slides													
Programmed Instruction													
Instructional Packet													
Information Packet													
Program Packet													
Case Study							$\frac{1}{4}$						1
Typed Script													
Simulation													
Books and Paperbacks			2						3				5
Television Receiver													
Videotape Recorder													
Cassette Recorder													

Table 64

Specifications for Module SCF-2 (pages 333-336)

Categories	Activities 1	2	3	4	5	6	7	8	9	10	11	12	T
Running Total Time	2	7	10	15	18	23	41	46	70	75	77	82	82
Chronule	2	5	3	5	3	5	18	5	24	5	2	5	
Number of Groups	15	1	1	1	1	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	15	15	15	15	1	15	1	15	1	1	
Pre or Post Testing	2										2		4
Seminar Meeting		5	3	5	3	5		5		5			31
Small Group Meeting													
Independent Study							18		24				42
Field Work: Tutoring													
Field Work: Teaching													
Field Work: Nonteaching													
Remediation												5	5
Facilitation Center	2		3		3						2	2	12
Field Center													
Faculty: Univ. Prof.		5		5		5		5		12		2	34
Faculty: Clin. Prof.													
Faculty: Clin. Teacher													
Study Carrel A			3		3								6
Study Carrel B													
Study Carrel C													
Small Group Room A													
Small Group Room B													

Table 64

Categories	Activities 1	2	3	4	5	6	7	8	9	10	11	12	T
Seminar Room A													
Seminar Room B		5		5		5		5		5			25
Testing Station A													
Testing Station B	2										2		4
Testing Station C													
16mm Film A			1		1								2
16mm Film B													
16mm Film C													
16mm Film D													
16mm Film Commercial													
Audio Tape													
2x2 Slides													
Programmed Instruction													
Instructional Packet													
Information Packet													
Program Packet													
Case Study													
Typed Script													
Simulation													
Books and Paperbacks							2						2
Television Receiver			1		1								2
Videotape Recorder													
Cassette Recorder													

Table 65

Specifications for Module SCF-3 (pages 337-341)

	Activities														
Categories	1	2	3	4	5	6	7	8	9	10	11	12	13	14	T
Running Total Time	2	17	35	40	43	48	51	56	74	79	103	108	110	115	115
Chronule	2	5	18	5	3	5	3	5	18	5	24	5	2	5	
Number of Groups	15	1	15	1	15	1	15	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2												2		4
Seminar Meeting		5		5		5		5		5		5			30
Small Group Meeting															
Independent Study			18		3		3		18		24				66
Field Work: Tutoring															
Field Work: Teaching															
Field Work: Nonteaching															
Remediation														5	5
Facilitation Center	2				3		3						2		10
Field Center															
Faculty: Univ. Prof.		5		5		5		5		5		5		2	32
Faculty: Clin. Prof.															
Faculty: Clin. Teacher															
Study Carrel A					3		3								6
Study Carrel B															
Study Carrel C															
Small Group Room A															
Small Group Room B															

Table 65

Categories	Activities 1	2	3	4	5	6	7	8	9	10	11	12	13	14	T
Seminar Room A															
Seminar Room B		5		5		5		5		5		5			30
Testing Station A															
Testing Station B	2														2
Testing Station C															
16mm Film A					$\frac{1}{1}$		$\frac{1}{1}$								2
16mm Film B															
16mm Film C															
16mm Film D															
16mm Film Commercial															
Audio Tape															
2x2 Slides															
Programmed Instruction															
Instructional Packet															
Information Packet															
Program Packet															
Case Study															
Typed Script															
Simulation															
Books and Paperbacks			3						2						5
Television Receiver															
Videotape Recorder															
Cassette Recorder															

Table 66

Specifications for Module SCF-4 (pages 342-345)

	Activities										
Categories	1	2	3	4	5	6	7	8	9	10	T
Running Total Time	2	5	7	13	31	37	55	61	63	68	68
Chronule	2	3	2	6	18	6	18	6	2	5	
Number of Groups	15	1	15	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2								2		4
Seminar Meeting		3		6		6		6			21
Small Group Meeting											
Independent Study			2		18		18				38
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2		2						2		6
Field Center											
Faculty: Univ. Prof.		3		6		6		6		2	23
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A			2								2
Study Carrel B											
Study Carrel C											
Small Group Room A											
Small Group Room B											

Table 66 (Continued)

Categories	Activities 1	2	3	4	5	6	7	8	9	10	T
Seminar Room A											
Seminar Room B		3		6		6		6			21
Testing Station A											
Testing Station B	2										2
Testing Station C									2		2
16mm Film A			1								1
16mm Film B											
16mm Film C											
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet											
Information Packet											
Program Packet											
Case Study											
Typed Script											
Simulation											
Books and Paperbacks					4						4
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 67

Specifications for Module SCF-5 (pages 346-348)

	Activities											
Categories	1	2	3	4	5	6a	6b	7	8	9	10	T
Running Total Time	2	8	11	17	23	29	38	50	56	58	63	63
Chronule	2	6	3	6	6	6	9	12	6	2	5	
Number of Groups	15	1	15	1	15	1	15	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	1	15	1	1	
Pre or Post Testing	2									2		4
Seminar Meeting		6		6		6			6			24
Small Group Meeting												
Independent Study			3		6		9	12				30
Field Work: Tutoring												
Field Work: Teaching												
Field Work: Nonteaching												
Remediation											5	5
Facilitation Center	2	6	3	6		6			6	2		31
Field Center												
Faculty: Univ. Prof.		6		6		6					2	20
Faculty: Clin. Prof.												
Faculty: Clin. Teacher												
Study Carrel A			3									3
Study Carrel B												
Study Carrel C												
Small Group Room A												
Small Group Room B												

Table 67 (Continued)

Categories	Activities 1	2	3	4	5	6a	6b	7	8	9	10	T
Seminar Room A												
Seminar Room B		6		6		6						18
Testing Station A												
Testing Station B												
Testing Station C	2										2	4
16mm Film A			$\frac{1}{2}$									1
16mm Film B												
16mm Film C												
16mm Film D												
16mm Film Commercial												
Audio Tape												
2x2 Slides												
Programmed Instruction												
Instructional Packet		$\frac{1}{3}$						$\frac{1}{3}$				2
Information Packet		$\frac{1}{3}$						$\frac{1}{3}$				2
Program Packet							$\frac{1}{3}$	$\frac{1}{3}$				2
Case Study												
Typed Script												
Simulation												
Books and Paperbacks					$\frac{1}{3}$							2
Television Receiver												
Videotape Recorder												
Cassette Recorder												

Table 68

Specifications for Module SCF-6 (pages 350-354)

Categories	Activities 1	2	3	4	5a	5b	6	7	8	9a	9b
Running Total Time	2	8	11	17	23	29	41	47	59	65	71
Chronule	2	6	3	6	6	6	12	6	12	6	6
Number of Groups	1	15	1	1	15	1	1	15	1	15	1
Number of Sections	7	7	7	7	7	7	7	7	7	7	7
Size of Group	15	1	15	15	1	15	15	1	15	1	15
Pre or Post Testing	2										
Seminar Meeting		6			6	6		6		6	
Small Group Meeting											
Independent Study			3	6			12		12		6
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation											
Facilitation Center	2	6			6	6	12	6		6	
Field Center											
Faculty: Univ. Prof.		6			6			6		6	
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A			3								
Study Carrel B											
Study Carrel C											
Small Group Room A											
Small Group Room B		6									

Table 68 (Continued)

Categories	Activities 1	2	3	4	5a	5b	6	7	8	9a	9b
Seminar Room A											
Seminar Room B											
Testing Station A											
Testing Station B											
Testing Station C	2										
16mm Film A			$\frac{1}{2}$								
16mm Film B											
16mm Film C											
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet		$\frac{1}{4}$				$\frac{1}{4}$					$\frac{1}{4}$
Information Packet		$\frac{1}{4}$				$\frac{1}{4}$					
Program Packet						$\frac{1}{4}$					$\frac{1}{4}$
Case Study											
Typed Script											
Simulation											
Books and Paperbacks				3					3		
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 68 (Continued)

Categories	Activities									
	10	11	12	13	14	15	16	17	18	T
Running Total Time	77	83	95	101	107	113	119	121	126	
Chronule	6	6	12	6	6	6	6	2	5	
Number of Groups	1	15	1	15	1	15	15	1	1	
Number of Sections	7	7	7	7	7	7	7	7	7	
Size of Group	15	1	15	1	15	1	1	15	15	
Pre or Post Testing								2		4
Seminar Meeting		6		6		6	6			54
Small Group Meeting										
Independent Study	6		12		6					63
Field Work: Tutoring										
Field Work: Teaching										
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center		6		6		6	6	2	2	72
Field Center										
Faculty: Univ. Prof.		6		6		6	6		2	50
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A										3
Study Carrel B										
Study Carrel C										
Small Group Room A										
Small Group Room B		6		6		6	6			48

Table 68 (Continued)

Categories	Activities 10	11	12	13	14	15	16	17	18	T
Seminar Room A										
Seminar Room B										
Testing Station A										
Testing Station B										
Testing Station C									2	4
16mm Film A										1
16mm Film B										
16mm Film C										
16mm Film D										
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet					$\frac{1}{4}$					4
Information Packet										2
Program Packet					$\frac{1}{4}$					3
Case Study										
Typed Script										
Simulation										
Books and Paperbacks			6							12
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 69

Specifications for Module SCF-7 (pages 355-360)

	Activities																	
Categories	1	2	3	4	5a	5b	6	7a	7b	7c	8	9	10	11	12	13	14	T
Running Total Time	2	5	14	20	26	32	44	47	50	53	55	64	68	71	74	76	81	81
Chronule	2	3	9	6	6	6	12	3	3	3	2	9	4	3	3	2	5	
Number of Groups	15	1	15	1	15	15	1	15	15	15	1	15	1	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
Size of Group	1	15	1	15	1	1	15	1	1	1	15	1	15	1	15	1	1	
Pre or Post Testing	2															2		4
Seminar Meeting		3		6			12						4		3			28
Small Group Meeting																		
Independent Study			9		6	6		3	3			9						36
Field Work: Tutoring																		
Field Work: Teaching																		
Field Work: Nonteaching																		
Remediation																	5	5
Facilitation Center	2	3		6	6	6	12						4	3	3	2	2	49
Field Center																	2	2
Faculty: Univ. Prof.		3		6			12							3				24
Faculty: Clin. Prof.																		
Faculty: Clin. Teacher																		
Study Carrel A					6	6								3				15
Study Carrel B																		
Study Carrel C																		
Small Group Room A																		
Small Group Room B																		

Table 69 (Continued)

Categories	1	2	3	4	5a	5b	6	7a	7b	7c	8	9	10	11	12	13	14	T
Seminar Room A																		
Seminar Room B		3		6			12						4		3			28
Testing Station A																		
Testing Station B																		
Testing Station C	2															2		4
16mm Film A																		
16mm Film B																		
16mm Film C																		
16mm Film D														$\frac{1}{3}$				1
16mm Film Commercial																		
Audio Tape																		
2x2 Slides																		
Programmed Instruction																		
Instructional Packet					$\frac{1}{3}$	$\frac{1}{3}$		$\frac{1}{3}$						$\frac{1}{3}$				4
Information Packet																		
Program Packet																		
Case Study																		
Typed Script																		
Simulation																		
Books and Paperbacks			4									3						7
Television Receiver																		
Videotape Recorder																		
Cassette Recorder																		

Table 70

Specifications for Module SCF-8 (pages 361-363)

	Activities												
Categories	1	2	3	4a	4b	5a	5b	6	7	8	9	10	T
Running Total Time	2	8	48	54	57	66	69	75	87	93	95	100	100
Chronule	2	6	12	6	3	9	3	6	12	6	2	5	
Number of Groups	15	1	15	1	15	15	15	1	2	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	1	1	15	7	15	1	1	
Pre or Post Testing	2										2		4
Seminar Meeting		6		6				6		6			24
Small Group Meeting									12				12
Independent Study			12		3	9	3						27
Field Work: Tutoring													
Field Work: Teaching													
Field Work: Nonteaching													
Remediation												5	5
Facilitation Center	2	6		6				6	12	6	2		40
Field Center													
Faculty: Univ. Prof.		6		6				6		6		2	26
Faculty: Clin. Prof.													
Faculty: Clin. Teacher													
Study Carrel A													
Study Carrel B													
Study Carrel C													
Small Group Room A									12				12
Small Group Room B													

Table 70

	Activities												
Categories	1	2	3	4a	4b	5a	5b	6	7	8	9	10	T
Seminar Room A													
Seminar Room B		6		6				6					18
Testing Station A													
Testing Station B													
Testing Station C	2										2		4
16mm Film A													
16mm Film B													
16mm Film C													
16mm Film D													
16mm Film Commercial													
Audio Tape													
2x2 Slides									1				1
Programmed Instruction													
Instructional Packet		$\frac{1}{3}$			$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$				
Information Packet		$\frac{1}{4}$							$\frac{1}{4}$				2
Program Packet					$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{4}$				3
Case Study													
Typed Script													
Simulation													
Books and Paperbacks			4				3						7
Television Receiver													
Videotape Recorder													
Cassette Recorder													

Table 71

Specifications for Module SCF-9 (pages 364-368)

Categories	Activities 1	2	3a	3b	4	5	6	7	8	9	10	11	12	13	14	T
Running Total Time	2	8	17	20	26	35	41	50	56	65	71	87	92	94	99	99
Chronule	2	6	9	3	6	9	6	9	6	9	6	15	6	2	5	
Number of Groups	15	1	15	15	1	15	1	15	1	15	1	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
Size of Group	1	15	1	1	15	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2													2		4
Seminar Meeting		6			6		6		6		6		6			36
Small Group Meeting																
Independent Study			9	3		9		9		9		15				54
Field Work: Tutoring																
Field Work: Teaching																
Field Work: Nonteaching																
Remediation															5	5
Facilitation Center																
Field Center																
Faculty: Univ. Prof.		6			6		6		6		6		6		2	38
Faculty: Clin. Prof.																
Faculty: Clin. Teacher																
Study Carrel A																
Study Carrel B																
Study Carrel C																
Small Group Room A																
Small Group Room B																

Table 71 (Continued)

Categories	Activities 1	2	3a	3b	4	5	6	7	8	9	10	11	12	13	14	T
Seminar Room A																
Seminar Room B		6			6		6		6		6		6			36
Testing Station A																
Testing Station B																
Testing Station C	2													2		4
16mm Film A																
16mm Film B																
16mm Film C																
16mm Film D																
16mm Film Commercial																
Audio Tape																
2x2 Slides																
Programmed Instruction																
Instructional Packet		$\frac{1}{3}$											$\frac{1}{3}$			2
Information Packet		$\frac{1}{3}$		$\frac{1}{3}$												2
Program Packet																
Case Study																
Typed Script																
Simulation																
Books and Paperbacks			3			4		4		4						15
Television Receiver																
Videotape Recorder																
Cassette Recorder																

Table 72

Specifications for Module SCF-10 (Pages 369-372)

Categories	Activities 1	2	3	4a	4b	5	6	7	8a	8b
Running Total Time	2	8	20	26	29	32	41	47	56	59
Chronule	2	6	12	6	3	3	9	6	9	3
Number of Groups	15	1	15	1	15	15	1	15	1	15
Number of Sections	7	7	7	7	7	7	7	7	7	7
Size of Group	1	15	1	15	1	1	15	1	15	1
Pre or Post Testing	2									
Seminar Meeting		6		6			9		9	
Small Group Meeting										
Independent Study										
Field Work: Tutoring										
Field Work: Teaching										
Field Work: Nonteaching										
Remediation										
Facilitation Center	2				3					
Field Center										
Faculty: Univ. Prof.		6		6			9		9	
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A						3				3
Study Carrel B										
Study Carrel C										
Small Group Room A										
Small Group Room B										

Table 72 (Continued)

Categories	Activities 1	2	3	4a	4b	5	6	7	8a	8b
Seminar Room A										
Seminar Room B		6		6			9		9	
Testing Station A										
Testing Station B										
Testing Station C	2									
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D					$\frac{4}{3}$	$\frac{5}{3}$				$\frac{4}{3}$
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet							$\frac{1}{3}$			
Information Packet										
Program Packet							$\frac{1}{3}$			
Case Study										
Typed Script										
Simulation										
Books and Paperbacks			3						3	
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 72 (Continued)

Categories	Activities									
	9	10	11	12	13a	13b	14	15	16	T
Running Total Time	65	74	80	86	92	95	107	109	114	114
Chronule	6	9	6	6	6	3	12	2	5	
Number of Groups	15	1	15	1	15	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	1	15	1	1	
Pre or Post Testing								2		4
Seminar Meeting		9		6			12			57
Small Group Meeting										
Independent Study										
Field Work: Tutoring										
Field Work: Teaching										
Field Work: Nonteaching										
Remediation									5	5
Facilitation Center								2		7
Field Center										
Faculty: Univ. Prof.		9		6			12		2	59
Faculty: Clin. Prof.										
Faculty: Clin. Teacher										
Study Carrel A			6			3				15
Study Carrel B										
Study Carrel C										
Small Group Room A										
Small Group Room B										

Table 72 (Continued)

	Activities									
Categories	9	10	11	12	13a	13b	14	15	16	T
Seminar Room A		9								9
Seminar Room B				6			12			48
Testing Station A										
Testing Station B										
Testing Station C									2	4
16mm Film A										
16mm Film B										
16mm Film C										
16mm Film D		$\frac{4}{3}$	$\frac{3}{3}$			$\frac{4}{3}$				24
16mm Film Commercial										
Audio Tape										
2x2 Slides										
Programmed Instruction										
Instructional Packet		$\frac{1}{5}$			$\frac{1}{4}$					3
Information Packet		$\frac{1}{3}$			$\frac{1}{3}$					2
Program Packet										1
Case Study										
Typed Script					$\frac{1}{3}$					1
Simulation										
Books and Paperbacks				2						8
Television Receiver										
Videotape Recorder										
Cassette Recorder										

Table 73

Specifications for Module SCF-11 (pages 373-375)

	Activities								
Categories	1	2	3	4	5	6	7	8	T
Running Total Time	2	5	8	14	20	26	28	33	33
Chronule	2	3	3	6	6	6	2	5	
Number of Groups	15	1	1	1	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	
Size of Group	1	15	15	15	1	15	1	1	
Pre or Post Testing	2						2		7
Seminar Meeting		3		6		6			15
Small Group Meeting									
Independent Study									
Field Work: Tutoring									
Field Work: Teaching									
Field Work: Nonteaching									
Remediation									
Facilitation Center	2	3	3	6	3	6	2	2	27
Field Center									
Faculty: Univ. Prof.		3		6		6		2	17
Faculty: Clin. Prof.									
Faculty: Clin. Teacher									
Study Carrel A			3		3				6
Study Carrel B									
Study Carrel C									
Small Group Room A									
Small Group Room B									

Table 73 (Continued)

Categories	Activities 1	2	3	4	5	6	7	8	T
Seminar Room A									
Seminar Room B									
Testing Station A	2						2		4
Testing Station B									
Testing Station C									
16mm Film A			$\frac{1}{3}$						1
16mm Film B									
16mm Film C									
16mm Film D									
16mm Film Commercial									
Audio Tape									
2x2 Slides									
Programmed Instruction									
Instructional Packet					$\frac{1}{3}$				1
Information Packet					$\frac{1}{3}$				1
Program Packet					$\frac{1}{3}$				1
Case Study									
Typed Script									
Simulation									
Books and Paperbacks									
Television Receiver									
Videotape Recorder									
Cassette Recorder									

Table 74

Specifications for SCF-12 (pages 376-379)

	Activities											
Categories	1	2	3	4a	4b	5	6	7	8	9	10	T
Running Total Time	2	5	8	11	14	23	26	32	35	37	42	42
Chronule	2	3	3	3	3	9	3	6	3	2	5	
Number of Groups	15	1	15	1	1	15	1	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	
Size of Group	1	15	1	15	15	1	15	1	15	1	1	
Pre or Post Testing	2									2		4
Seminar Meeting		3		3	3		3	6	3			21
Small Group Meeting												
Independent Study			3			9						12
Field Work: Tutoring												
Field Work: Teaching												
Field Work: Nonteaching												
Remediation											5	5
Facilitation Center		3		3	3	9	3	6	3		2	32
Field Center												
Faculty: Univ. Prof.		3		3	3		3		3		2	17
Faculty: Clin. Prof.												
Faculty: Clin. Teacher												
Study Carrel A												
Study Carrel B						9						9
Study Carrel C												
Small Group Room A												
Small Group Room B												

Table 74 (Continued)

Categories	Activities 1	2	3	4a	4b	5	6	7	8	9	10	T
Seminar Room A								6				6
Seminar Room B		3		3	3		3		3			15
Testing Station A												
Testing Station B												
Testing Station C	2									2		4
16mm Film A												
16mm Film B												
16mm Film C												
16mm Film D								$\frac{3}{1}$				3
16mm Film Commercial												
Audio Tape												
2x2 Slides												
Programmed Instruction												
Instructional Packet						$\frac{1}{3}$		$\frac{1}{3}$				2
Information Packet												
Program Packet												
Case Study												
Typed Script												
Simulation												
Books and Paperbacks			1									1
Television Receiver												
Videotape Recorder												
Cassette Recorder												

Table 75

Specifications for Module SCF-13 (pages 380-383)

	Activities										
Categories	1	2	3	4a	4b	5	6	7	8	9	T
Running Total Time	2	5	14	20	26	29	32	35	37	42	
Chronule	2	3	9	6	6	3	3	3	2	5	
Number of Groups	15	1	15	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2								2		4
Seminar Meeting		3		6		3		3			15
Small Group Meeting											
Independent Study			9		6		3				18
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2	3	9	6	6	3	3	3	2	2	39
Field Center											
Faculty: Univ. Prof.		3		6		3		3		2	17
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A					6						6
Study Carrel B											
Study Carrel C							3				3
Small Group Room A											
Small Group Room B											

Table 75 (Continued)

Categories	Activities										
	1	2	3	4a	4b	5	6	7	8	9	T
Seminar Room A				6							6
Seminar Room B		3				3		3			9
Testing Station A											
Testing Station B	2								2		4
Testing Station C											
16mm Film A											
16mm Film B											
16mm Film C				$\frac{1}{3}$	$\frac{4}{1}$						5
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction				$\frac{2}{3}$							2
Instructional Packet					$\frac{1}{3}$		$\frac{1}{3}$				2
Information Packet											
Program Packet											
Case Study											
Typed Script											
Simulation											
Books and Paperbacks			11								11
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 76

Specifications for Module SCF-14 (pages 384-386)

	Activities														
Categories	1	2	3	4a	4b	5	6	7	8	9a	9b	10	11	12	T
Running Total Time	2	8	14	20	26	35	41	44	50	59	62	68	70	75	75
Chronule	2	6	6	6	6	9	6	3	6	9	3	6	2	5	
Number of Groups	15	1	15	1	1	15	1	15	1	15	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	15	1	15	1	15	1	1	15	1	1	
Pre or Post Testing	2												2		4
Seminar Meeting		6		6	6		6		6			6			36
Small Group Meeting															
Independent Study			6			6		6		9	3				30
Field Work: Tutoring															
Field Work: Teaching															
Field Work: Nonteaching															
Remediation														5	5
Facilitation Center						6							2		8
Field Center	2	6					6	6	6		3	6	2		37
Faculty: Univ. Prof.		6		6			6		6			6		2	32
Faculty: Clin. Prof.															
Faculty: Clin. Teacher															
Study Carrel A									3			3			6
Study Carrel B															
Study Carrel C															
Small Group Room A															
Small Group Room B															

Table 76 (Continued)

	Activities														
Categories	1	2	3	4a	4b	5	6	7	8	9a	9b	10	11	12	T
Seminar Room A															
Seminar Room B		6		6	6				6			6			30
Testing Station A															
Testing Station B															
Testing Station C	2												2		4
16mm Film A								1/2							1
16mm Film B															
16mm Film C															
16mm Film D											3/3				3
16mm Film Commercial															
Audio Tape															
2x2 Slides															
Programmed Instruction															
Instructional Packet						1/4									1
Information Packet															
Program Packet						1/3									1
Case Study															
Typed Script					1	2				2					5
Simulation															
Books and Paperbacks			2												2
Television Receiver															
Videotape Recorder															
Cassette Recorder															

Table 77

Specifications for Module SCF-15 (pages 387-389)

	Activities											
Categories	1	2	3	4	5	6	7	8	9	10	11	T
Running Total Time	2	5	7	9	12	27	30	36	42	48	53	53
Chronule	2	3	2	2	3	15	3	6	6	2	5	
Number of Groups	15	1	15	15	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	1	15	1	15	1	15	1	1	
Pre or Post Testing	2									2		4
Seminar Meeting		3			3		3		6			15
Small Group Meeting												
Independent Study			2	2		15		6				25
Field Work: Tutoring												
Field Work: Teaching												
Field Work: Nonteaching												
Remediation											5	5
Facilitation Center	2		2	2		15		6		2		29
Field Center												
Faculty: Univ. Prof.		3			3		3		6		2	17
Faculty: Clin. Prof.												
Faculty: Clin. Teacher												
Study Carrel A			2	2						2		6
Study Carrel B	2											2
Study Carrel C								6				6
Small Group Room A												
Small Group Room B												

Table 77 (Continued)

Categories	1	2	3	4	5	6	7	8	9	10	11	T
	Activities											
Seminar Room A												
Seminar Room B		5			3		3		6			17
Testing Station A	2											2
Testing Station B												
Testing Station C												
16mm Film A			$\frac{1}{3}$									1
16mm Film B												
16mm Film C												
16mm Film D				$\frac{4}{3}$								4
16mm Film Commercial												
Audio Tape												
2x2 Slides												
Programmed Instruction												
Instructional Packet								$\frac{1}{3}$				1
Information Packet												
Program Packet												
Case Study												
Typed Script												
Simulation												
Books and Paperbacks						4						4
Television Receiver												
Videotape Recorder												
Cassette Recorder												

Table 78

Specifications for Module SCF-16 (pages 390-393)

	Activities														
Categories	1	2	3	4	5	6	7	8	9	10	11	12	13	14	T
Running Total Time	2	5	8	11	14	17	20	23	38	41	47	53	55	60	60
Chronule	2	3	3	3	3	3	3	3	15	3	6	6	2	5	
Number of Groups	15	1	15	1	15	1	15	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2												2		4
Seminar Meeting		3		3		3		3		3					15
Small Group Meeting															
Independent Study		3		3		3		3		3		3			18
Field Work: Tutoring															
Field Work: Teaching															
Field Work: Nonteaching															
Remediation														5	5
Facilitation Center	2		3		3		3		15		6		2		34
Field Center															
Faculty: Univ. Prof.		3		3		3		3		3		3		2	20
Faculty: Clin. Prof.															
Faculty: Clin. Teacher															
Study Carrel A	2		3		3		3						2		13
Study Carrel B															
Study Carrel C									15		6				21
Small Group Room A															
Small Group Room B															

Table 78 (Continued)

Categories	Activities 1	2	3	4	5	6	7	8	9	10	11	12	13	14	T
Seminar Room A															
Seminar Room B		3		3		3		3		3		6			21
Testing Station A	2												2		4
Testing Station B															
Testing Station C															
16mm Film A			$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$								3
16mm Film B															
16mm Film C															
16mm Film D															
16mm Film Commercial															
Audio Tape															
2x2 Slides															
Programmed Instruction															
Instructional Packet											$\frac{1}{3}$				1
Information Packet															
Program Packet															
Case Study															
Typed Script															
Simulation															
Books and Paperbacks									6						6
Television Receiver															
Videotape Recorder															
Cassette Recorder															

Table 79

Specifications for SCF-17 (pages 394-397)

	Activities														
Categories	1	2	3	4	5	6	7	8	9	10	11	12	13	14	T
Running Total Time	2	5	8	11	26	32	35	38	50	53	62	68	70	75	75
Chronule	2	3	3	3	15	6	3	3	12	3	9	6	2	5	
Number of Groups	15	1	15	1	15	1	15	1	15	1	15	1	15	2	
Number of Sections	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
Size of Group	1	15	1	15	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2												2		4
Seminar Meeting															
Small Group Meeting															
Independent Study				3			3								6
Field Work: Tutoring															
Field Work: Teaching															
Field Work: Nonteaching															
Remediation															
Facilitation Center		3	3			6	3	3		3		6			27
Field Center															
Faculty: Univ. Prof.		3		3		6		3		3		6			24
Faculty: Clin. Prof.															
Faculty: Clin. Teacher															
Study Carrel A			3				3								6
Study Carrel B															
Study Carrel C															
Small Group Room A															
Small Group Room B															

Table 79

Categories	Activities 1	2	3	4	5	6	7	8	9	10	11	12	13	14	T
Seminar Room A															
Seminar Room B		3		3		6		3		3		6			24
Testing Station A															
Testing Station B	2												2		4
Testing Station C															
16mm Film A															
16mm Film B															
16mm Film C															
16mm Film D															
16mm Film Commercial			1												1
Audio Tape															
2x2 Slides															
Programmed Instruction															
Instructional Packet											$\frac{1}{3}$				1
Information Packet															
Program Packet															
Case Study															
Typed Script															
Simulation															
Books and Paperbacks				4					2						6
Television Receiver															
Videotape Recorder															
Cassette Recorder															

Table 80

Specifications for Module SCF-18 (pages 398-400)

	Activities										
Categories	1	2	3	4	5	6	7	8	9	10	T
Running Total Time	2	5	7	10	19	22	28	34	36	41	41
Chronule	2	3	2	3	9	3	6	6	2	5	
Number of Groups	15	1	15	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2								2		4
Seminar Meeting		3		3		3		6			15
Small Group Meeting											
Independent Study			2		9		6				17
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2		2		9		6		2		21
Field Center											
Faculty: Univ. Prof.		3		3		3		6		2	17
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A			2								2
Study Carrel B	2								2		4
Study Carrel C											
Small Group Room A											
Small Group Room B											

Table 80 (Continued)

Categories	Activities 1	2	3	4	5	6	7	8	9	10	T
Seminar Room A											
Seminar Room B		3		3		3		6			15
Testing Station A											
Testing Station B	2								2		4
Testing Station C											
16mm Film A			$\frac{1}{1}$								1
16mm Film B											
16mm Film C											
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet							$\frac{1}{3}$				$\frac{1}{3}$
Information Packet											
Program Packet											
Case Study											
Typed Script											
Simulation											
Books and Paperbacks					4						4
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 81

Specifications for Module SCF-19 (pages 401-403)

	Activities										
Categories	1	2	3	4	5	6	7	8	9	10	T
Running Total Time	2	5	7	10	22	25	34	40	42	47	47
Chronule	2	3	2	3	12	3	9	6	2	5	
Number of Groups	15	1	15	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2								2		4
Seminar Meeting		3		3		3		6			15
Small Group Meeting											
Independent Study			2		12		9				23
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2		2		12		9		2		27
Field Center											
Faculty: Univ. Prof.		3		3		3		6		2	17
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A			2							2	4
Study Carrel B	2										2
Study Carrel C						9					9
Small Group Room A											
Small Group Room B											

Table 81 (Continued)

Categories	Activities 1	2	3	4	5	6	7	8	9	10	T
Seminar Room A											
Seminar Room B		3		3		3		6			15
Testing Station A	2								2		4
Testing Station B											
Testing Station C											
16mm Film A											
16mm Film B											
16mm Film C			1								1
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet											
Information Packet											
Program Packet											
Case Study											
Typed Script											
Simulation											
Books and Paperbacks					4						4
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 82

Specifications for Module SCF-20 (pages 404-406)

Categories	Activities 1	2	3	4	5	6	7	8	9	10	T
Running Total Time	2	5	7	10	22	25	34	40	42	47	47
Chronule	2	3	2	3	12	3	9	6	2	5	
Number of Groups	15	1	15	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2								2		4
Seminar Meeting		3		3		3		6			15
Small Group Meeting											
Independent Study	2		2		12		9		2		27
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2		2		12		9		2		27
Field Center											
Faculty: Univ. Prof.		3		6		3		6		2	20
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A			2		6						8
Study Carrel B											
Study Carrel C											
Small Group Room A											
Small Group Room B											

Table 82 (Continued)

	Activities										
Categories	1	2	3	4	5	6	7	8	9	10	T
Seminar Room A											
Seminar Room B		3		6		3		6			18
Testing Station A									2		2
Testing Station B	2										2
Testing Station C											
16mm Film A	$\frac{1}{4}$										1
16mm Film B											
16mm Film C											
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction											
Instructional Packet	$\frac{1}{3}$										1
Information Packet											
Program Packet											
Case Study											
Typed Script											
Simulation											
Books and Paperbacks					3						3
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Table 83

Specifications for Module SCF-21 (pages 407-409)

	Activities										
Categories	1	2	3	4	5	6	7	8	9	10	T
Running Total Time	2	5	9	12	24	30	39	45	47	52	52
Chronule	2	3	4	3	12	6	9	6	2	5	
Number of Groups	15	1	15	1	15	1	15	1	15	1	
Number of Sections	7	7	7	7	7	7	7	7	7	10	
Size of Group	1	15	1	15	1	15	1	15	1	1	
Pre or Post Testing	2								2		4
Seminar Meeting		3		3		6		6			18
Small Group Meeting											
Independent Study			4		12		9		2		27
Field Work: Tutoring											
Field Work: Teaching											
Field Work: Nonteaching											
Remediation										5	5
Facilitation Center	2		4		12		9		2		29
Field Center											
Faculty: Univ. Prof.		3		3		6		6		2	20
Faculty: Clin. Prof.											
Faculty: Clin. Teacher											
Study Carrel A			4								4
Study Carrel B											
Study Carrel C						12		9			21
Small Group Room A											
Small Group Room B											

Table 83 (Continued)

Categories	Activities 1	2	3	4	5	6	7	8	9	10	T
Seminar Room A											
Seminar Room B	2								2		4
Testing Station A											
Testing Station B											
Testing Station C											
16mm Film A			$\frac{2}{3}$								2
16mm Film B											
16mm Film C											
16mm Film D											
16mm Film Commercial											
Audio Tape											
2x2 Slides											
Programmed Instruction							$\frac{1}{3}$				1
Instructional Packet											
Information Packet											
Program Packet											
Case Study											
Typed Script											
Simulation											
Books and Paperbacks					4						4
Television Receiver											
Videotape Recorder											
Cassette Recorder											

Simulated Individual Student Program

In a teacher education program which is very much individualized, modularized, and self-paced a great many pathways are possible for students as they move through the program. The possibilities are infinite. In order to get a fix on the resources which would have to be available at various times during the academic year the movement of students through the program was simulated.

The procedure was a relatively simple one. A three by five inch card with a hole punched in one end was made for each of the eighty-three modules for each section of students. Cards contained the code name of the module, the section number, the total number of sections of the module which would be offered the other modules pre-requisite to and/or concurrent with the module, the number of chronules the module would take from beginning to completion, and the time the student would spend in the module. An example of a specification card follows in Figure 3 on page 229.

These cards were manipulated on a bulletin board approximately eight feet by fourteen feet in size. The bulletin board contained thirty-two columns and ten rows of finishing nails. Each column represented one week of an academic year. Manipulation was done by persons intimately familiar with the Model who tried to put themselves into the roles of students faced with the possible alternatives. In this way, a number of total program patterns were developed. These are far too cumbersome to report here. However, in order to present the flavor of the product thus obtained, two weekly format sheets and four individual student program patterns, two junior year patterns and two senior year patterns are presented in the tables which follow on pages 230-235.

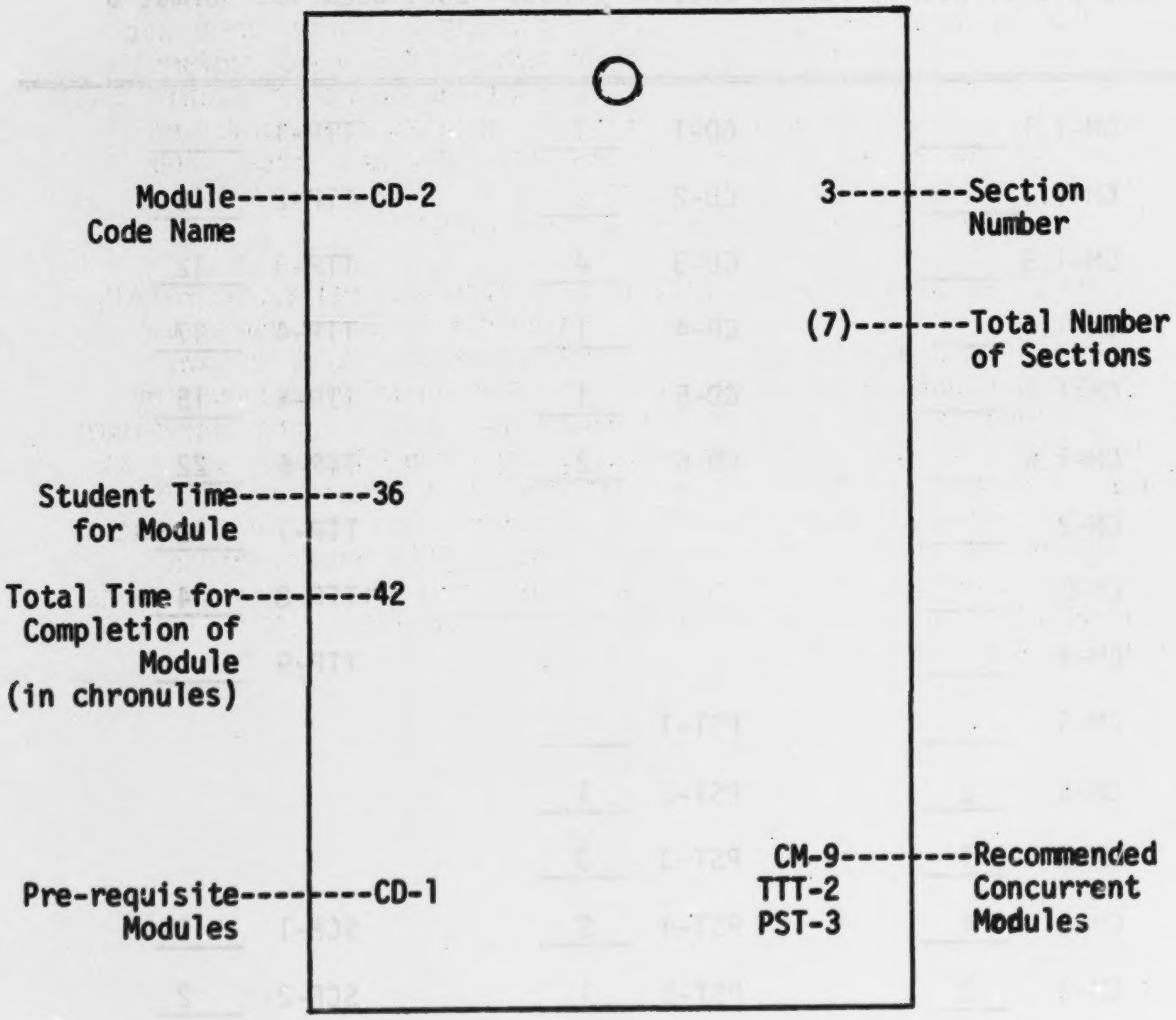

Module Code Name
CD-2
3
Section Number
(7)
Total Number of Sections
Student Time for Module
36
Total Time for Completion of Module (in chronules)
42
Pre-requisite Modules
CD-1
CM-9
TTT-2
PST-3
Recommended Concurrent Modules

Figure 3. Example of a module specification card used in simulation of student progress through the program.

Table 84

Example of Weekly Format Sheet: Junior Year, Week 15, Format 6

CM-1.1		CD-1	1	TTP-1	
CM-1.2		CD-2	2	TTP-2	16
CM-1.3		CD-3	4	TTP-3	12
CM-1.4		CD-4	1	TTP-4	17
CM-1.5		CD-5	1	TTP-5	15
CM-1.6		CD-6	2	TTP-6	22
CM-2				TTP-7	12
CM-3				TTP-8	4
CM-4				TTP-9	
CM-5		PST-1			
CM-6	2	PST-2	1		
CM-7	1	PST-3	3		
CM-8	4	PST-4	2	SCF-1	1
CM-9	2	PST-5	1	SCF-2	2
CM-10	3	PST-6	1	SCF-3	1

Table 85

Example of Weekly Format Sheet: Senior Year, Week 10, Format 3

CM-11		CD-7		TTP-10	
CM-12	4	CD-8	1	TTP-11	2
CM-13	6	CD-9	3	TTP-12	12
CM-14	7	CD-10	5	TTP-13	18
CM-15	9	CD-11	4	TTP-14	9
CM-16	11	CD-12	3	TTP-15	7
CM-17	4	CD-13		TTP-16	3
CM-18	1				
CM-19		SCF-4		PST-7	1
CM-20		SCF-5	2		
CM-21		SCF-6	3		
		SCF-7	1		
		SCF-8			
		SCF-9			

Table 86

Example of Individual Student Program: Junior Year, Format 8

Week of Program	Instruction Module*
-2**	PST-1
-1**	PST-1
1	CM-1.1, CM-1.2, CM-1.3, PST-2
2	CM-1.4, CM-1.5
3	CM-1.6
4	CM-2, SCF-1
5	CM-3, PST-3
6	CM-4, PST-4
7	CM-5, SCF-2
8	CM-6, SCF-3
9	CM-7
10	CM-8
11	CD-1, TTP-1
12	PST-5
13	
14	CM-9, CD-2, TTP-2
15	CM-10, CD-3, TTP-3
16	CD-4, TTP-4
17	CD-5, TTP-5
18	CD-6, TTP-6
19	TTP-7
20	TTP-8
21	TTP-9, PST-6
22	
23	
24	
25	
26	
27	
28	
29	
30	

* Table does not include Enabling Seminar meeting or Liberal Education seminars, which would meet on regular basis.

** Week -1 and -2 are just prior to the beginning of the junior year.

Table 87

Example of Individual Student Program: Junior Year, Format 11

Week of Program	Instruction Module*
-2**	PST-1
-1**	PST-1
1	CM-1.1, CM-1.2, CM-1.3, CM-1.4, CM-1.5, CM-1.6, PST-2
2	SCF-1, PST-3
3	SCF-2
4	SCF-3
5	PST-4
6	PST-5
7	
8	CM-2
9	CM-3
10	CM-4
11	CM-5
12	CM-6
13	CM-7, TTP-1
14	CM-8, CD-1
15	
16	CM-9, CD-2
17	CM-10, TTP-2
18	CD-3, TTP-3
19	CD-4, TTP-4
20	CD-5, TTP-5
21	CD-6, TTP-6
22	TTP-7, PST-6
23	TTP-8
24	TTP-9
25	
26	
27	
28	
29	
30	

* Table does not include Enabling Seminar meetings or Liberal Education seminars which would meet on regular basis.

** Weeks -1 and -2 are just prior to the beginning of the junior year.

Table 88

Example of Individual Student Program: Senior Year, Format 7

Week of Program	Instruction Module*
1	CM-11, TTP-10, PST-7
2	PST-7
3	CM-12, TTP-11
4	CD-7, SCF-4
5	CM-13, CD-8
6	
7	CM-14, SCF-5
8	TTP-12
9	CM-15, CD-9
10	CD-10
11	CM-16
12	CD-11, TTP-13, SCF-6
13	CM-17
14	TTP-14
15	CM-18, CD-12
16	SCF-7
17	CD-13
18	TTP-15
19	CM-19
20	SCF-8
21	CM-20, TTP-16
22	
23	CM-21
24	
25	SCF-9
26	
27	
28	
29	
30	

* Table does not include Enabling Seminar meetings which would meet on an irregular basis.

Table 89

Example of Individual Student Program: Senior Year, Format 16

Week of Program	Instruction Module*
1	TTP-10
2	
3	CD-7, PST-7
4	CD-8, SCF-4
5	TTP-11
6	SCF-5
7	CD-9, TTP-12
8	CD-10, SCF-6
9	
10	
11	CD-11, TTP-13
12	SCF-7
13	TTP-14
14	CD-12
15	CD-13
16	SCF-8
17	CM-11, TTP-15
18	CM-12, TTP-16
19	CM-13
20	CM-14, SCF-9
21	CM-15
22	CM-16
23	CM-17
24	CM-18
25	CM-19
26	
27	
28	CM-20
29	CM-21
30	

* Table does not include Enabling Seminar meetings which would meet on an irregular basis.

Resource Allocation Decisions

After the module specifications detailed the categories of resources required and the program patterns were constructed; it was possible to ascertain the number of each type of person, the number of each kind of facility, and the quantities of materials needed. A number of guidelines were established:

1. The critical resource is student time; for example, the learning of a student should not be delayed because of a lack of sufficient copies of a needed film.
2. The library and study areas of the Facilitation Center would be open to students from 8:00 a.m. till midnight.
3. Classroom facilities (seminar rooms, small group rooms, and testing stations) would be available for use from 8:00 a.m. to 4:00 p.m. and by special arrangement from 7:00 p.m. to 9:00 p.m.
4. Faculty personnel would not, except under unusual circumstances, be available to program needs for more than twenty hours a week.
5. The faculty-student ratio should always be appropriate to the particular learning activity as specified by the Model.
6. Student remediation and recycling would call for an additional ten percent allocation of resources.

The outputs from this process are described in the next chapter which presents the cost data rather than here. In that section personnel, facilities, and materials requirements are listed and costs are assigned.

CHAPTER V

COST ANALYSIS

The Cost Analysis Task Force

This chapter provides approximate cost data on items necessary for successful development, operation, and maintenance of the Syracuse Model Elementary Teacher Education Program. The Cost Analysis Task Force, the group concerned with the issues dealt with here, was composed of:

Task Force Leader:
William P. Kent (System Development Corporation)

Task Force Staff:
William Bellman (System Development Corporation)
Frank A. Bishop (Jamesville-Dewitt Central Schools)
Jules Deuble (Syracuse City School District)
Michael L. Jacobs (System Development Corporation)
Robert C. Stewart (Syracuse University)

The Cost Analysis Tasks

Financial feasibility was stated in the introduction of this proposal as being of special concern to this study. The significance of this task cannot be overemphasized. Cost analysis must play a continuing and sometimes decisive role as the numerous specifications during implementation of the Model are evaluated as to their cost effectiveness.

The cost data were compiled from a wide range of sources. Program element priorities established by experienced educators from the schools, the university, and other members of the Protocooperative were given careful consideration. These financial analyses exerted strong influence over the determination of the final specifications covering both development and program operation.

Total costs in this presentation are broken down into four primary allocation areas: materials, facilities, personnel, and overhead. Each category is further broken down into individual cost items with the specificity currently possible. Examination of the breakdown reveals that identification of item cost is possible only to the extent of predicting approximate development and operating costs.

Relative to the materials allocation category, this means that it is not possible at this point to specify alternative material costing for the fully mediated instructional materials necessary for the wide variety of instructional experiences prescribed by the Model Program. Since the instructional route has been established as a fully mediated approach through establishment of the program assumptions and operational criteria, it would not be consistent with those assumptions to select, at this time, one instructional activity or set of materials that would cost effectively be better than any other. Therefore, no attempt has been made to present cost effective data on instructional materials. It will be up to the students and faculty to provide such cost effective information once the program is in operation. Based on their judgment and testimony as "product" users, re-evaluation of instructional materials must take place relative to determining the cost effectiveness of each type of media.

Likewise, facility costing assumes that the questioning process for alternatives while initiated in the feasibility phase of the program will not and should not be concluded until real operation feedback provides the range of cost effectiveness and determines exact facility needs. Documentation of relevant feedback information from students, faculty, and staff will again aid in identifying factors such as equipment considerations and cost implications.

Personnel costs reported here include projected salaries, wages, and fringe benefits. Costs include directly identified costs associated with particular functional activities and also that part of overhead that appropriately may be assigned to those activities. Salary costs reflect current levels plus cost of living increments of approximately six percent per year.

The newness of undertaking to develop a fully mediated instructional program with such a range of educational experiences will necessarily require that the measurement of effectiveness, of both a quantitative and a qualitative nature, must take place in part after actual operation of the program has commenced, allowing for collection of data relative to attitudes and achievements. Such data will hopefully designate appropriate changes, reallocations, and redesigns.

Data provided herein should serve as general guidelines for program costing rather than exact and hard figures. As much as possible, data represents state-of-the-art costs subject to change with cost-of-living increases, inflation, and other variables. It should be recognized that, while overall program costs might be anticipated to rise with an increase in operating costs due to annual increasing costs, it may be possible through technological improvements and efficient use of resources to significantly reduce some program costs.

That costs can be reduced through the development of cooperative teacher education programs among a number of institutions is anticipated. Instructional materials, equipment, and--in certain situations--facilities and faculty could be shared to defray costs. Notably the cost of subscribing to a computerized information handling system and using time-sharing techniques would be substantially reduced if a number of institutions were to use the same services. The cost of initially developing routine applications and subsystems as well as the continuing cost of computer time could be deferred among a group of participating institutions.

Assumptions underlying the costs which are reflected in this chapter include the following:

1. All costs pertain to implementation of the Syracuse University Model Elementary Teacher Education Program at Syracuse University and, therefore, exportability costs are not reported; however, costs are realistic with regard to other teacher education institutions and are to a large degree generalizable.

2. Costs are predicated on a yearly graduating class of one hundred students when the program is fully operational.

3. Income such as student tuition payments are not represented in the estimates.

4. The usual services rendered by most institutions of higher learning (custodial, maintenance, and security services, and site purchase, and building construction costs, for example) are considered to be overhead costs financed on the basis of the University's indirect cost figure.

5. Costs do not reflect the potential savings which could be effected through cooperative efforts in the production of basic instructional materials and operation of computer facilities.

6. Cost figures often reflect a position which holds that while student time is the critical program resource reality demands occasional compromise.

7. Once developed and in full operation--the beginning of the sixth year--the program must be self-supporting.

Materials

The section of the chapter which follows lists and describes estimated costs of materials specified as necessary for operation of the program. Cost estimates are presented in tabular form for the six year developmental and operational period. Cost breakdowns are provided with the specificity possible; these estimates include consultant and developmental services.

Table 90

Estimated Costs for Materials

Year	Estimated Costs
1	$1,700,600
2	1,308,000
3	758,000
4	497,300
5	109,000
Total 1-5	4,372,900
6	109,000

Table 91

Breakdown of Estimated Costs for Materials

Material	1 Number of Titles	2 Cost of Development Per Title	3 Cost of Development (1 x 2)	4 Cost of Duplication Per Title	5 Cost of One Set (1 x 4)	6 Number of Copies	7 Cost of Copies (5 x 6)	Total Cost (3 + 7)
Mediated Programmed Material	30	$100	$3,000	$5	$150	3	$450	$3,450
Information Packet	39	150	5,850	5	195	400	78,000	83,850
Program Packet	57	450	25,650	5	285	50	14,250	39,900
Instructional Packet	37	300	11,100	5	185	50	9,250	20,350
Programmed Instruction	9	3,500	31,500	5	45	30	1,350	32,850
Audio Tapes	39	4	156	4	156	400	62,400	62,550
Slides	14	500	7,000	24	336	10	3,360	10,360
Slide-Tapes	16	504	8,064	28	448	15	6,720	14,784
16mm Film	486	9,075 minutes at $500 per minute						$4,037,500

Table 91 (Continued)

Material	Number of Units	Cost Per Unit	Cost
Video Tapes	600	$40	$24,000
Cassette Tapes	1600	2	3,200
Cassette Tape Recorders	260	50	13,000
Commercial 16mm Film	12	200	2,400
Non-Instructional Supplies*			$25,000

*This category includes items such as office supplies, duplication, and printing for all but instructional materials; no item breakdown is possible until the program is operational and exact needs are indicated; however, the estimated cost seems reasonable.

Facilities

Estimated costs for facilities are presented in tabular form in this section. Costs included are only those associated with furnishing and equiping rooms; in those cases where software is an integral part of the facility such as in the library and Facilitation Center resource area, it is seen as a part of the facility and is categorized here rather than in the section concerned with materials.

Cost estimates are presented in tabular form for two types of facilities--learning spaces and support facilities.

Table 92

Estimated Costs for Learning Space Facilities

Facility	Number	Year 1	2	3	4	5	Total 1-5	6
Lecture Room	1	$ 4,100	---	---	---	---	$ 4,100	---
Seminar Room A	2	11,600	---	---	---	---	11,600	---
Seminar Room B	2	5,000	---	---	---	---	5,000	---
Small Group Room A	12	60,000	---	---	---	---	60,000	---
Small Group Room B	5	9,000	---	---	---	---	9,000	---
Study Carrel A	16	30,000	---	---	---	---	30,000	---
Study Carrel B	16	2,000	---	---	---	---	2.000	---
Study Carrel C	2	300	---	---	---	---	300	---
Testing Station A	8	14,800	---	---	---	---	14,800	---
Testing Station B	4	300	---	---	---	---	300	---
Testing Station C	16	1,000	---	---	---	---	1,000	---

Table 93

Estimated Costs for Support Facilities

	Year						
Facility	1	2	3	4	5	Total 1-5	6
Facilitation Center:							
Resource Center	$29,000	$ 2,800	$ 2,800	$ 2,800	$ 2,800	$ 40,200	$ 2,800
Library	50,000	3,000	3,000	3,000	3,000	62,000	3,000
Supplies and Equipment	2,500	2,500	2,500	2,500	2,500	12,500	2,500
Computer System	60,000	50,000	71,000	56,000	56,000	293,000	56,000
Office Spaces (32)*	16,300	---	---	---	---	16,300	---
Field Centers (6)	---	24,000	---	---	---	24,000	---

* 7 clerical offices at $900 and 25 offices at $400.

A breakdown of the facility costs estimates is presented in the following tables.

Table 94

Breakdown of Cost Estimates for Lecture Room*

Item	Cost
Student Desks (60)	$ 600
Drapes	200
Sound Film Projector, 16mm	450
Sound Film Projector, 8mm	300
Screen	50
Blackboard	65
Slide Projector	120
Videotape Recorder	1,500
Television Receiver, 23 inch	230
Overhead Projector	150
Audio Tape Recorder	300
Art Projector	40
Cabinets	70
Total	$4,075

* Room is 40 feet by 60 feet.

Table 95

Breakdown of Cost Estimates for Seminar Room A*

Item	Cost
Sound Film Projector, 16mm	$ 450
Sound Film Projector, 8mm	300
Screen	50
Closed Circuit Television System	1,600
Chalkboard (2)	65
Tables (8)	280
Chairs (16)	320
Cork Board	60
Drapes	200
Slide Projector	120
Audio Tape Recorder	300
Projector Cart	40
Television Receiver, 23 inch	230
Cabinets	70
Acoustical Floor Covering	1,600
Cassette Tape Recorder	60
Overhead Projector	150
Total	$5,895

* Room is 16 feet by 24 feet.

Table 96

Breakdown of Cost Estimates for Seminar Room B*

Item	Cost
Chalkboard	$ 65
Tables (8)	280
Chairs (16)	320
Cork Board	60
Drapes	200
Cabinets	70
Acoustical Floor Covering	1,280
Cassette Tape Recorder	60
Overhead Projector	150
Total	$2,485

* Room is 15 feet by 24 feet.

Table 97

Breakdown of Cost Estimates for Small Group Room A*

Item	Cost
Sound Film Projector, 16mm	$ 450
Sound Film Projector, 8mm	300
Screen	50
Closed Circuit Television System	1,600
Chalkboard	30
Tables (4)	140
Chairs (10)	200
Cork Board	60
Drapes	150
Slide Projector	120
Audio Tape Recorder	300
Projector Cart	40
Television Receiver, 23 inch	230
Cabinets	70
Cassette Tape Recorder	60
Acoustical Floor Covering	960
Overhead Projector	150
Total	$4,910

* Room is 16 feet by 18 feet.

Table 98

Breakdown of Cost Estimates for Small Group Room B*

Item	Cost
Chalkboard	$ 65
Tables (8)	280
Chairs (10)	200
Cork Board	60
Drapes	150
Cabinets	70
Acoustical Floor Covering	740
Cassette Tape Recorder	60
Overhead Projector	150
Total	$1,775

* Room is 16 feet by 14 feet.

Table 99

Breakdown of Cost Estimates for Study Carrel A*

Item	Cost
Sound Projector, 8mm	$ 300
Slide Projector	120
Cassette Tape Recorder	60
Screen	10
Closed Circuit Television System	1,110
Headphones	50
Wiring and Lighting	100
Table	80
Swivel Chair	65
Total	$1,895

* Table is 30 inches by 60 inches.

Table 100

Breakdown of Cost Estimates for Study Carrel B*

Item	Cost
Table	$ 50
Chair	20
Wiring and Lighting	50
Total	$120

* Table is 30 inches by 48 inches.

Table 101

Breakdown of Cost Estimates for Study Carrel C*

Item	Cost
Table	$ 50
Chair	20
Wiring and Lighting	80
Computer Terminal**	---
Total	$150

* Table is 30 inches by 48 inches and size of terminal.

** Computer terminal cost estimates are included under Information Handling System costs.

Table 102

Breakdown of Cost Estimates for Testing Station A*

Item	Cost
Sound Projector, 8mm	$ 300
Slide Projector	120
Screen	10
Cassette Tape Recorder	60
Closed Circuit Television System	1,110
Headphones	50
Wiring and Lighting	100
Table	80
Swivel Chair	65
Computer Terminal**	---
Total	$1,895

* Table is 30 inches by 60 inches and size of terminal.

** Computer terminal cost estimates are included under Information Handling System costs.

Table 103

Breakdown of Cost Estimates for Testing Station B*

Item	Cost
Table	$ 30
Chair	40
Computer Terminal**	---
Total	$ 70

* Table is 30 inches by 60 inches and size of terminal.

** Computer terminal cost estimates are included under Information Handling System costs.

Table 104

Breakdown of Cost Estimates for Testing Station C*

Item	Cost
Table	$ 45
Chair	20
Total	$ 65

* Table is 24 inches by 30 inches.

5

Table 105

Breakdown of Estimated Costs for Library*

Item	Cost
Acoustical Floor Covering	$ 6,830
Books (4000)	40,000
Tables (18)	630
Chairs (60)	1,200
Miscellaneous Furniture	3,000
Shelving	2,000
Check Out Counter	1,000
Desks (2)	200
Desks (2)	120
Swivel Chairs (4)	200
Film Inspector and Cleaner	4,000
Film Can Cabinet (11)	2,200
Four Drawer Files (14)	700
Typewriters (2)	800
Total	$62,880

* Library is 32 feet by 64 feet and serves an average of 150 students per day including testing and seats fifty students; librarian's office is 10 feet by 12 feet.

Table 106

Breakdown of Estimated Costs for Resource Center

Item	Cost
Offset Press (Automatic Feed)	$ 8,500
Collator	2,000
Student Supplies	4,000
Bulletin Board Typewriters (2)	1,000
Diazo Machine	3,600
Single Lens Reflex Cameras (3)	630
Copying Stand	90
Light Meters (2)	70
Tables (6)	300
Chairs (24)	480
Polaroid Copy System	900
Offset Supplies	3,000
Desk	100
Swivel Chair	50
Total	$24,720

Table 107

Breakdown of Estimated Costs for Offices

Item	Cost
Secretarial Office:	
Desk	$125
Chair	40
Drapes	40
Dictaphone	150
Typewriter	350
Filing Cabinets (3)	90
Typing Stand	40
Miscellaneous	50
Total	$895
Faculty Office:	
Desk	$150
Chair	50
Drapes	40
Filing Cabinets (2)	60
Book Cases	100
Total	$400

Table 108

Breakdown of Estimated Costs for Supplies for Resource Center

Item	Cost
For Overhead Transparencies by Direct Method:	
Reprocessed X-Ray Film (4)	$ 160
Projection Color Grease Pencils (14 dozen)	25
Transparency Pattern Tape (30 rolls)	37
Color Transparency Tape (32 rolls)	35
Cut-Color Sheets (25)	5
Projection Markers (10 dozen)	40
Quick Lettering Sheets (30)	45
Sub-Total	$ 347
For Overhead Transparencies by Thermo-Heat:	
Type 133 Positive Transparency Film (4 boxes)	$ 244
Type 127 Positive Transparency Film (10 boxes)	250
Type 125 Positive Transparency Film (1 box)	25
Type 128 Positive Transparency Film (2 boxes)	54
Type 129 Positive Transparency Film (2 boxes)	54
Fileable Mounts (4000)	320
Transparent Tape (65 rolls)	30
Visucom Hinges (10 boxes)	15
Staples (1 box)	3
Sub-Total	$ 995
For Making 2x2 Slides:	
KPA-135-36 Film/Mailer (150 rolls)	$ 630
K-135-36 Film/Mailer (225 rolls)	900
EX-126-20 Film/Mailer (40 rolls)	112
126-12 Film Black and White (30 rolls)	18
35mm 1/2 Frame Mounts (9000)	85
35mm Full Frame Mounts (6000)	57
Kima 2x2 Slide Sleeves (2000)	40
Studio Paper (30 packages)	27
Chemicals for Instamatic B&W Film Processing (10 sets)	21
Sub-Total	$1,890

Table 108 (Continued)

Item	Cost
For Making Audio Tapes:	
3" Empty Tape Reel and Box (300)	$ 45
5" Empty Tape Reel and Box (84)	30
7" Empty Tape Reel and Box (24)	10
600 Ft. Blank Recording Tape (96)	125
1,200 Ft. Blank Recording Tape (48)	100
C-60 Cassettes W/Mailer (200)	320
C-30 Cassettes W/Mailer (750)	825
Color-Leader Tape (24 rolls)	20
Splicing Tape (8 rolls)	4
Sub-Total	$1,479
For Making Movies:	
Super KA Film (30 rolls)	$ 120
Film Cement (1 pint)	1
Leader Movie (5 rolls)	4
Film Cleaner (1 quart)	2
Cotton Gloves (8 pairs)	7
Empty Reels and Cans Super 8 200'	9
Blank Cartridges (50)	33
Press Tape (12)	9
Sub-Total	$ 185
For Picture Mounting:	
Complete Set	$ 50
For Overhead Transparencies by the Diazo Process:	
Diazo Sensitized Film (30 packages)	$ 192
TV Drafting Paper (20)	137
#4 Photo Floods (6)	13
Ammonia (1 gallon)	4
Grid Master Kit	18
Utility Knife (4)	6
Masking Tape 1/4" (12)	8
Sub-Total	$ 378
Total	$5,274

Table 109

Breakdown of Estimated Cost for Equipment for Resource Center

Item	Cost
For Overhead Transparencies:	
Thermo Process Transparency Maker	$ 300
Diazo Process Transparency Maker	300
Sub-Total	$ 600
For 2x2 Slides:	
Photo Copy Stand with Lights (2)	$ 60
SLR 35mm Cameras (2)	480
Instamatic Slide Cameras (4)	140
Instamatic Slide Cameras (5)	75
Visual Maker Unit	90
Electronic Flash Units (3)	90
Large Electronic Flash Unit	60
Wide Angle Lens	75
Telephoto Lens	125
Close-Up Lens Sets (2)	18
Tripod-Light Weight	25
Polaroid	35
Half Frame Camera	125
Slide Reproducer	350
35mm Film Cutters (2)	34
Sub-Total	$1,757
For Audio Tapes:	
Tape Splicers (6)	$ 30
Bulk Tape Eraser	17
Head Demagnitizer	8
Tape Recorders (4)	600
Stereo Tape Recorder	150
Record Players (2)	120
Cassette Recorders (4)	440
AM-FM Recorder	40
Sound Mixer	45
Sub-Total	$1,450

Table 109 (Continued)

Item	Cost
For Super 8 Movies:	
Super 8 Camera	$ 230
Super 8 Camera, Student	90
Movie Lighting Units (2)	160
Movie Editor	35
Heavy Duty Tripod	50
E-8 Notcher	7
Super 8 Splicer	16
Sub-Total	$ 508
For Television:	
Videotape Recorder System, Portable 1/2"	$1,600
Non-Portable Camera	1,000
Sub-Total	$2,600
Graphics Service:	
Bulletin-Type Typewriter, Long Carriage (2)	$ 460
Drafting Table	85
Drawing Boards with Parallel Straight Edge (4)	48
Paper Trimmer	65
Small Paper Trimmer	12
LeRoy Lettering Sets (2)	110
Technical Ink Pen (10)	30
Cut-Out Letter Sets	26
Plastic Letters (3)	60
3-D Photo Letter Set	24
Bulletin Board Letter Sets	60
Sub-Total	$ 980

Table 109 (Continued)

Item	Cost
Miscellaneous:	
Seal Drying Mounting Press and Tacking Iron	$ 205
Heavy Duty Staplers (2)	28
Symbol Templates (8)	60
Thermo Book Copier	180
Stack Loader	11
Patch Cords (15)	38
Electric Typewriter	400
Cabinets	400
Desks (2)	160
Office Chairs (2)	80
Work Table	80
Sub-Total	$1,642
Total	$9,537

Table 110

Breakdown of Estimated Costs for Field Center Equipment

Item	Cost
Classroom Equipment:	
Projection Screen	$ 20
Filmstrip Projector, 150 Watts	40
Record Player with Head Set	60
Cassette Recorders (2)	140
Filmstrip/Slide Projector, 500 Watts	105
Overhead Projector, 600 Watts	120
Card Reader for Grades 1-3	270
Sound Filmstrip Projector	180
Listening Station with Head Sets	65
Sub-Total	$1,000
Classroom Equipment to be Shared Among Two or Three Teachers:	
Sound Projectors, 8mm	$ 180
Silent Projector, 8mm	100
Sound Projector, 16mm	425
Sound Filmstrip Projector	250
Tape Recorder	140
2x2 Slide Projector with 5" Lens	75
2x2 Slide Projector with Rear Screen	80
Controlled Reader	185
Portable Screen	10
Sub-Total	$1,445
School Equipment:	
Large Overhead Projector	$ 375
Opaque Projector	350
Filmstrip-Tape Automatic Projector	275
Sub-Total	$1,000
Total	$4,000

Personnel

This section presents the cost estimates relevant to the personnel requirements specified. Estimates are based on the Model, the recommended organizational and management strategies detailed in Chapter III, and the specifications described in Chapter IV. Consultant costs are included in the material category as consultants would be contracted to develop or aid in the development of materials or support mechanisms. All cost estimates are presented in tabular form.

Table 111

Estimated Costs of Campus Instructional Personnel

Personnel	Year 1	2	3	4	5	Total 1-5	6
SCF Component Instructor (1/3)	$5,000	$5,300	$5,600	$6,000	$6,400	$28,300	$6,700
SCF Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
SCF Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
CM Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
CM Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
PST Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
PST Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
CD Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
CD Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
TTP Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
TTP Component Instructor (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
Liberal Education Instructor (1/2)	5,000	5,250	5,500	5,750	6,000	27,500	6,250
Liberal Education Instructor (1/2)	5,000	5,250	5,500	5,570	6,000	27,500	6,250
Liberal Education Instructor (1/2)	5,000	5,250	5,500	5,570	6,000	27,500	6,250
Liberal Education Instructor (1/2)	5,000	5,250	5,500	5,570	6,000	27,500	6,250
Liberal Education Instructor (1/2)	5,500	5,750	6,000	6,250	6,500	30,000	6,750
Liberal Education Instructor (1/2)	5,500	5,750	6,000	6,250	6,500	30,000	6,750
Enabling Seminar Facilitator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
Enabling Seminar Facilitator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
Enabling Seminar Facilitator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
Secretary (1/2)	2,250	2,350	2,500	2,600	2,700	12,400	2,800

Table 112

Estimated Costs of Field Instructional Personnel

Personnel	Year 1	2	3	4	5	Total 1-5	6
Clinical Professors (1/5)	$3,000	$3,200	$3,400	$3,600	$3,800	$17,000	$4,000
Clinical Professors (1/5)	3,000	3,200	3,400	3,600	3,800	17,000	4,000
Clinical Professors (1/5)	3,000	3,200	3,400	3,600	3,800	17,000	4,000
Clinical Professors (1/5)	3,000	3,200	3,400	3,600	3,800	17,000	4,000
Clinical Professors (1/5)	3,000	3,200	3,400	3,600	3,800	17,000	4,000
Clinical Professors (1/5)	3,000	3,200	3,400	3,600	3,800	17,000	4,000
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500
Clinical Teachers (1/5)	2,000	2,100	2,200	2,300	2,400	11,000	2,500

Table 113

Estimated Costs of Instructional Support System Personnel

Personnel	Year						
	1	2	3	4	5	Total 1-5	6
Instructional Component Coordinator	$14,000	$14,600	$15,200	$15,800	$16,400	$76,000	$17,000
Secretary	5,500	5,800	6,100	6,400	6,700	30,500	7,000
LE Component Coordinator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
SD Component Coordinator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
CM Component Coordinator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6.700
CD Component Coordinator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
TTP Component Coordinator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
PST Component Coordinator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
SCF Component Coordinator (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
Secretary	2,300	2,400	2,500	2,600	2,700	12,500	2,800
Counselor/Adviser (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
Counselor/Adviser (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700
Counselor/Adviser (1/3)	5,000	5,300	5,600	6,000	6,400	28,300	6,700

Table 114

Estimated Costs of Program Support Personnel

Personnel	Year 1	2	3	4	5	Total 1-5	6
Program Coordinator	$17,000	$18,000	$19,000	$20,000	$21,000	$95,000	$21,000
Secretary	6,000	6,300	6,600	6,900	7,200	33,000	7,500
Program Support System Coordinator	14,000	14,600	15,200	15,800	16,400	76,000	17,000
Secretary	5,500	5,800	6,100	6,400	6,700	30,500	7,000
Special Librarian	11,000	11,500	12,000	12,500	13,000	60,000	13,500
Testing Assistant	---	6,000	6,300	6,600	6,900	25,800	7,100
Clerk	6,000	6,300	6,600	6,900	7,200	33,000	7,500
Part-Time Clerk	3,000	3,000	3,000	3,000	3,000	15,000	3,000
Part-Time Clerk	3,000	---	---	---	---	3,000	---
Production Specialist	10,000	10,500	11,000	11,500	12,000	55,000	12,500
Maintenance	9,000	9,300	9,600	10,000	10,300	48,200	10,500
Graphics Specialist (1/2)	6,000	6,300	6,600	6,900	7,100	32,900	7,400

Table 114 (Continued)

Personnel	Year 1	2	3	4	5	Total 1-5	6
Information and Evaluation Support System Coordinator	$14,000	$14,600	$15,200	$15,800	$16,400	$76,000	$17,000
Secretary	5,500	5,800	6,100	6,400	6,700	30,500	7,000
Computer Specialist (1/2)	7,000	7,400	7,800	8,200	8,600	39,000	9,000
Typist	5,000	5,300	5,600	6,000	6,400	28,300	6,700
Measurement and Evaluation Specialist (3/4)	10,000	10,500	11,000	11,500	12,000	55,000	12,500
Measurement and Evaluation Specialist (3/4)	10,000	10,500	11,000	11,500	12,000	55,000	12,500
Statistician (1/2)	6,000	6,300	6,600	6,900	7,200	33,000	7,500
Statistician (1/4)	3,000	3,000	1,000	1,000	1,000	9,000	1,000
Organizational Support System Coordinator	12,000	12,600	13,200	13,800	14,400	66,000	15,000
Secretary	5,000	5,300	5,600	5,900	6,200	28,000	6,500
Center Director (1/20)	1,000	1,100	1,200	1,300	1,400	6,000	1,500
Center Director (1/20)	1,000	1,100	1,200	1,300	1,400	6,000	1,500
Center Director (1/20)	1,000	1,100	1,200	1,300	1,400	6,000	1,500
Center Director (1/20)	1,000	1,100	1,200	1,300	1,400	6,000	1,500
Center Director (1/20)	1,000	1,100	1,200	1,300	1,400	6,000	1,500
Center Director (1/20)	1,000	1,100	1,200	1,300	1,400	6,000	1,500

Information Handling System

The importance of an information handling system to the success of the program is obvious. Therefore, special attention is given here to a presentation of cost estimates relevant to the selected system and the thinking behind that selection.

The necessity for some form of information handling system becomes apparent with an examination of the objectives of the program. The essence of that need is incorporated as operational objectives, instructional experiences, and criteria for the assessment of student and program performance. If the program is to be tailored to individual student needs, then there will be, of necessity, a multitude of options open to the student in addition to those basic requirements demanded of all enrolled in the program. Consequently, there must be an efficient and effective means of not only managing the resources pertinent and available to the student, but also of providing feedback to the student and instructional staff so as to allow the student to find the path best suited to his needs, capabilities, and expectations. Crucial then to the program is the need for the collection, storage, and analysis of data and information relative to student performance and program operation.

Major functions of the information handling system are:

1. To provide data and information to assure effective and efficient utilization of resources.

2. To provide data and information assistance in the analysis and evaluation of student and program performance.

3. To provide information necessary for program revisions and development.

4. To provide a medium for the dissemination of information to program participants and other groups.

Although it might be feasible to operate an information system such as the program might require without computer or other data processing equipment assistance, the kinds of information needed quickly by the variety of program participants--students, instructional personnel, and support staff--the nature of the analysis operations to be performed, and the desire for program efficiency suggest that a computer-based information handling system is well worth consideration in light of the services it could effectively provide.

It would not be feasible at this time for the Syracuse University Protocooperative to own/rent and operate its own in-house computer facility. The proposed system would rent computer time from a large service facility utilizing rented remote terminals for computer access and address. Considering the proximity of a large computer facility which would be available on the Syracuse University campus (IBM 360-65)

it would seem reasonable and feasible to time-share off that facili with the program assuming the cost of computer use time, remote terminal rental, and staff time necessary to develop and implement the desired computer routines. A breakdown of those costs follow. This system would call for computer services costing approximately $46,000 per year with $5000 for batch CPU time and $41,000 for terminal time once the system is developed and operational.

Table 115

Estimated Cost of Computer Time Per Semester When Program Is Operational

Function	Frequency of Use per Student per Semester	Time Spent by Student per Function	Ratio of CPU Time to Terminal Time	Amount of CPU Time Used	Cost of CPU Time*	Cost Times Frequency of Use per Semester	Cost for All Students per Semester
Scheduling	5	7 minutes	1/35	0.20 minutes	$ .67	$ 3.35	$ 871.00
Pre - Post Test Data Handling	10	5 minutes	1/35	0.14 minutes	.47	4.70	1,222.00
Analysis and Evaluation	4	7 minutes	1/35	0.20 minutes	.67	2.68	696.80
Computer Administered Testing	3	45 minutes	1/20	2.25 minutes	7.50	22.50	5,850.00
Total							$7,639.80

* Based on CPU cost of $200 per hour.

Program Costs

Estimated costs for the program during the development period and through the sixth year are based on the personnel, facility, and material cost estimates which have been presented earlier in this chapter and miscellaneous costs including overhead costs which are computed at 55% of personnel salaries and computer services. That information is summarized in the table which follows.

Table 116

Estimated Costs of Program

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year Total 1-5	Year 6
Materials	$1,700,000	$1,300,000	$ 750,000	$ 493,300	$ 105,000	$4,348,300	$ 105,000
Facilities	295,900	82,300	79,300	64,300	54,300	586,100	64,300
Personnel	408,350	449,650	470,300	496,400	522,500	2,347,200	543,300
Miscellaneous*	254,592	267,307	307,665	319,020	333,375	1,483,960	345,090
Totals	$2,658,842	$2,099,257	$1,609,265	$1,373,020	$1,025,175	$8,765,560	$1,058,190

* Overhead and computer services.

CHAPTER VI

EXPORTABILITY OF THE MODEL

The Exportability Task Force

This chapter focuses on issues regarding the "exportability" of the Syracuse Model. The Exportability Task Force, the personnel who dealt with these issues and whose work is reported here, was composed of:

Task Force Leader:
Burton G. Andreas (Eastern Regional Institute for Education)
Task Force Staff:
Richard S. Andrulis (Eastern Regional Institute for Education)
Allan S. Hartman (Eastern Regional Institute for Education)
Berj Harootunian (Syracuse University)
Stuart S. Naidich (Finger Lakes Region Office of Educational Planning)

The Exportability Tasks

The original goal with regard to determining the exportability of the Model was the development of an instrument to be used by teacher education institutions and protocooperative groups to assist them in determining the feasibility of adopting or adapting the Syracuse Model Elementary Teacher Education Program. As the feasibility study progressed, this goal proved to be unrealistic for two principal reasons. First, in order for a teacher education institution to consider adoption or adaptation of the Syracuse Model, the institution's personnel would have to be sufficiently familiar with the Model and find it to be more attractive than the present program. Because of its relative recency, most institutions had only superficial knowledge of the Model and the program it prescribed. The development of an instrument that would detail the Model in depth and help institutions determine the feasibility of adoption required more resources and time than were available during the period allotted the feasibility study. Secondly, even if the personnel of an institution did fully understand all the ramifications of the Model, the data needed for decisions regarding adoption would not be available until the completion of the feasibility study. Answers to questions that a potential adopter might raise about the human, material, facility, and financial resources required for implementation of the Model were not available in time to be useful in the development of such an instrument. In short, the notion of an exportability instrument was seen to be premature, since much of the information viewed as crucial by potential adopting teacher education institutions would be forthcoming only upon the completion of the study testing the feasibility of the Syracuse Model.

Since these constraints required reformulation of the exportability task, a redefinition of the expected output was made. The following evolved as guidelines for activities dealing with the issue of exportability.

1. The major job was seen as the development of a plan for disseminating the Syracuse Model Elementary Teacher Education Program.
2. A major early aim was to provide succinct, accurate information to administrators in teacher education institutions in such a way as to stimulate strong interest in having them examine their teacher education programs in light of the Syracuse Model.
3. From initial contact, the exportability effort was structured to encourage in potential adopters of the Model the institutional interaction that a protocooperative implies.
4. Another objective of the exportability effort was to encourage each potential protocooperative to consider planning for its own feasibility study.
5. Evaluation of the various aspects of the exportability effort was seen to be essential so that guidelines would emerge for future work.
6. The exportability effort would have several stages, each implying a greater acceptance of and commitment to the Syracuse Model by potential adopters.
7. The exportability effort has as its objective the acceptance and implementation of the innovations called for by the Syracuse Model and the other nine model programs.

Dissemination

The dissemination effort consisted of three sequential stages; the first two of these have been accomplished while the last will be accomplished during the spring of 1970. A description of the stages in the dissemination effort follows.

Informational Brochure. As a first step in the dissemination of information regarding the Syracuse Model, a nine-page brochure was created. The brochure, a copy of which is presented in the Appendix of this report, summarized the Model. The brochure described: (1) the need for innovation in teacher education, (2) the context within which the Model was built, (3) an overview of the Model including its basic assumptions, an example of an instructional module, and its support systems, and (4) the role of a protocooperative.

Invitational Conference. The second step in dissemination was a one-day conference focusing on the Syracuse Model Elementary Teacher Education Program. Administrators from American Association of Colleges for Teacher Education member institutions in New York and Pennsylvania were sent copies of the brochure and were invited to: (1) attend a one-day conference on the Syracuse Model and (2) nominate faculty members, public school personnel, and others in their area who might wish to attend the conference as potential members of a protocooperative; a copy of the invitation is presented in the Appendix

A one-day conference was held at the Drumlins Country Club, Syracuse, New York, on November 5, 1969. As indicated in the conference program which is also presented in the Appendix, the sessions featured speakers on various aspects of the Model Program and liberal opportunity for audience discussion, questions, and reactions. The number of participants and other relevant information are described in the next section of this chapter which deals with the assessment of impact.

Spring Conference. A three-day conference has been projected for the spring of 1970. During the conference, administrators from teacher education institutions accepting the rationale of the Model Program will be given further details on the Model, the results of the Phase II feasibility study, and help in planning their own feasibility studies.

Assessment

The dissemination activities were designed in such a way as to provide data concerning the impact of the effort. Four types of assessment were organized to evaluate the effectiveness of the effort in presenting appropriate material to the selected sample of administrators and teacher educators who attended the invitational conference. Detailed descriptions of the four assessment procedures follow.

Assessment of the Responses to the Invitation. The first assessment dealt with the responses college administrators made to the mailing which invited them to attend the conference on the Model. Data in this regard was used to answer the following specific questions:

1. What percentage of those contacted stated that they would attend the conference on November 5?

2. What persons attending from each teacher education institution contacted public school personnel and/or individuals from other governmental educational agencies?

3. What are the positions of persons attending from each teacher education institution, public school, and governmental educational agency?

This information was obtained from the acceptance forms returned to the Protocooperative by those invited to the conference or nominated by invitees.

Assessment of the Conference. Those attending the conference were asked to respond to a questionnaire designed to yield data regarding the impact of the invitation and the conference. Information gathered from this questionnaire was used to answer the following specific questions:

1. Who attended the conference from each teacher education institution and potential protocooperative?

2. Who of those administrators invited through the initial mailing attended?

3. What questions did those attending have regarding the Model based on their understanding of the materials they had been sent? These questions were analyzed and answered during the conference.

4. To what extent were the questions, asked by those attending, answered during the conference and to what extent were the basic concepts of the Syracuse Model Elementary Teacher Elementary Teacher Education Program understood by those attending?

5. Did individuals attending the conference indicate their further interest by desiring more information concerning specific aspects of the Model? Additionally, what percentage of those attending requested additional information after the conference and/or after they returned to their respective institutions?

6. What were the official positions of those requesting additional information?

Information answering these questions was obtained from the following sources: Questions 1 and 2 were answered through an analysis of the registration forms completed by each person who attended. Question 3 was answered by an analysis of index cards submitted prior to the start of the conference by those attending. Question 4 was answered through examination of a questionnaire administered at the end of the conference; the questionnaire yielded data regarding the respondents' understandings about and attitudes toward the content and procedures of the conference. Questions 5 and 6 were answered through an analysis of index cards submitted after the conference.

Post-Conference Assessment. A follow-up questionnaire was mailed to those who had attended the conference. The questionnaire was designed to yield data regarding the following questions:

1. What are the views that the selected sample of teacher educators hold with regard to the Syracuse Model?
2. What influence, if any, has the Model and the conference had on the plans those teacher educators have relevant to their programs?
3. Were the materials presented sufficient and in acceptable form so as to encourage teacher educators to proceed with a feasibility study on their own?

With regard to the third question, that dealing with the presentation of the information, it was asked whether they found various parts of the presentation to be unclear in either substance or form.

Assessment of the Spring Conference. A three-day invitational conference will be held in the spring of 1970 for representatives from teacher education institutions interested in learning more about the Syracuse Model and its feasibility, considering adoption or adaptation of the Model, interested in working with the Syracuse University Protocooperative during development and implementation, and/or planning their own feasibility studies. Appropriate assessment procedures will be used to examine the impact of the second conference.

Results of the Exportability Assessment

The results which are summarized in this section of the chapter are based on the data thus far obtained relevant to the questions of exportability.

Invitations and Acceptances to the Conference. Table 117 presents the data relevant to the teacher education institutions and institutional representatives who were invited to the invitational conference. The procedure was to first invite one or two key administrative persons from each of the teacher education institutions involved. These persons were asked to designate faculty members, public school personnel, and governmental educational agency personnel they felt might like to attend. Persons so designated by invitees were likewise invited to the conference. The data concerning those invited and those accepting is presented below.

Table 117

Invitations, Designations, and Acceptances to Invitation

Subject	Number
Invited Administrators	93
Designated Administrators, Teacher Educators, Public School Personnel, and Others	97
Invited Teacher Education Institutions	71
Invited Administrators Who Accepted	13
Designated Administrators Who Accepted	36
Designated Teacher Educators Who Accepted	51
Designated Public School Personnel and Others Who Accepted	10
Invited Teacher Education Institutions Which Accepted	36

The data indicate that a majority of those invited to the conference sent designated representatives when they could not themselves plan to attend. Fully a hundred of those indicating the intent to attend were from teacher education institutions--about half of them administrators and half more directly concerned with teacher education. Only ten persons from public schools and other agencies indicated that they planned to participate. This suggests that the original invitees tended to designate campus personnel rather than potential protocooperative members from public schools and governmental educational agencies as persons to attend. While this may be understood in terms of organizational constraints and time pressures, it does suggest that teacher education institutions do not generally think in protocooperative terms.

Attendance at the Conference. Table 118 indicates the nature of attendance at the invitational conference. In addition to the 102 administrators, teacher educators, public school personnel, and governmental educational agency personnel who attended from institutions other than institutions in the Syracuse University Protocooperative, there were 65 persons from the Protocooperative and eight graduate students from Syracuse University.

Table 118

Persons Who Attended the Invitational Conference

Subject	Number
Invited Administrators	13
Designated Administrators, Teacher Educators, Public School Personnel, and Others	89
Syracuse University Protocooperative Members	65
Syracuse University Graduate Students	8
Total	175

Reactions to the Conference. A five-point rating-scale questionnaire was administered to those who participated in the invitational conference--except for those from the Protocooperative and the Syracuse University graduate students. That questionnaire is presented in the Appendix. The results obtained from 83 respondents through use of the questionnaire are presented here.

In answer to the question: "Did the information in the brochure sent to you provide an adequate introduction to the Syracuse Model Elementary Teacher Education Program?", the mean response was 2.4 where 1 on the scale was "adequate" and 5 was "inadequate." In answer to the question: "Did today's sessions further clarify the information contained in the brochure?", the mean response was 2.2 where 1 on the scale was "further clarified" and 5 was "did not clarify." These results suggest that the brochure did adequately introduce the Model and that the meeting conveyed information and permitted clarification probably not possible through written material alone.

The next section of the questionnaire centered on the effectiveness of the conference in contributing to the respondent's understanding of nine aspects of the Model Program dealt with in the conference. In each case the scale was a five-point scale with 1 being "added to understanding" and 5 being "did not add to understanding." The categories examined and the mean scores obtained were as follows:

1. The need for innovative programs in teacher education (2.7).

2. The history and assumptions of the Syracuse Model (2.1).

3. The nature of protocooperation (1.8).

4. A description of the Model Program (2.4).

5. Unique features of the Model Program (2.3).

6. The information and evaluation support system (3.0).

7. The program and organizational support systems (3.3).

8. How to form a protocooperative (3.0).

9. The planning and conducting of a feasibility study (3.5).

These data indicate that the conference did a reasonably effective job of constibuting to the understanding of the participants with regard to various aspects of the Model. Of particular interest is the finding that participants saw themselves learning more about those aspects which were stressed throughout the conference than about those given less emphasis; this supports the notion that the data are reliable.

In response to the question: "Did you feel your small group session was profitable in clarifying the Syracuse Model Elementary Teacher Education Program?," the mean response was 2.5 where 1 was "profitable" and 5 was "unprofitable." That suggests that the small group portion of the conference was effective.

In response to the question: "Were the questions that you raised adequately answered today?," the mean response was 2.6 where 1 was "adequately" and 5 was "inadequately." Those data indicate that answers were relatively adequately answered during the conference.

Additional data indicated that three-week notification concerning the conference was sufficient (1.5), that scheduling of the conference was of little inconvenience (1.7), and the conference location was convenient (1.7).

Responses to the questionnaire and the success of the conference suggest that the invitational conference was: (1) an important contribution to the understanding of the Syracuse Model Elementary Teacher Education Program, (2) a foundation for the possible formation of other protocooperatives centered around campuses in New York and Pennsylvania, (3) a step toward a feasibility conference in the spring of 1970 as part of a further dissemination effort, and (4) a prototype for the planning of dissemination efforts in other parts of the country.

Requests for Further Information. Table 119 indicates that a total of forty requests for further information were made by participants in the invitational conference.

Table 119

Requests for Further Information

Subject	Number of Requests
Teacher Education Institution Personnel	36
Public School Personnel	2
Governmental Educational Agency Personnel	2
Total	40

These data are additional indicants of the usefulness of the invitational conference in generating interest in the Model among a sizable group of teacher educators.

Attitudes About the Model. A follow-up questionnaire was sent to those who had participated in the invitational conference. A copy of that questionnaire appears in the Appendix. While the questionnaire was intended to yield data regarding a number of concerns, it mainly dealt with the attitudes participants held with regard to the Model. Forty participants responded to the questionnaire.

When participants were asked what had contributed to their understanding of the Model, the following was found regarding the number who indicated the various inputs:

1. The invitational conference (37).
2. The nine-page Phase I summary (20).
3. The eleven-page summary of the feasibility study proposal (8).
4. The brochure (29).
5. The 550-page Phase I final report (9).

When participants were asked to rank the five methods of dissemination as to their usefulness, the following mean ranks were found:

1. The invitational conference (1.5).
2. The 550-page Phase I final report (1.6)

3. The brochure (2.5).

4. The nine-page Phase I summary (2.6).

5. The eleven-page summary of the feasibility study proposal (4.0).

These results show that the majority of these responding gained greatest understanding from the invitational conference and the brief descriptions of the Model which were made a part of the exportability materials. The various sources of information were ranked by each respondent. Although a few did not rank all of the items, the mean rank values given in the table are considered indicative of the relative value of the information sources listed. The invitational conference was seen as the most useful. Although also receiving a good ranking, the 550-page Phase I final report was ranked by only 13 respondents. Many of those responding had probably not had opportunity to study that document. The summary of the feasibility study proposal received a fairly low mean rank which suggests it was less useful for current purposes. This appears reasonable since most interest centered on the Model itself, which was better described in the other sources.

When asked how adequate a description of the Syracuse Model they felt they had, the respondents indicated that they felt moderately well informed about the Syracuse Model as indicated by a mean rating of 2.2 where 1 was "adequate" and 5 was "inadequate."

The most significant section of the questionnaire was that part dealing with respondents' attitudes about various aspects of the Syracuse Model, especially the basic assumptions. In each case, the scale ranged from 1 ("positive") to 5 ("negative"). The various aspects of the Model listed in the questionnaire and the mean rating each received from respondents are presented in Table 120.

The various aspects of the Model were strongly endorsed by the respondents. The great majority of the responses given fell at the two most positive points on the five-point scale which was used. This strong positive reaction, coming from a relatively sizable number of teacher educators from a wide range of institutions, indicates acceptance of the Model, a prerequisite to its adoption or adaptation.

Another section of the questionnaire asked respondents to indicate the degree to which four methods of assistance would facilitate them in their own plans in elementary teacher education. In each case, the scale ranged from 1 ("facilitate") to 5 ("not facilitate"). The four methods and the obtained rating were as follows:

1. A three-day work conference in the spring of 1970 (1.9).

2. A copy of the feasibility study final report (1.2).

Table 120

Attitudes Regarding Aspects of the Model

Aspect of the Model	Rating
Assumption One	1.3
Assumption Two	1.4
Assumption Three	1.4
Assumption Four	1.2
Assumption Five	1.6
Assumption Six	1.5
Assumption Seven	1.5
Assumption Eight	1.4
Assumption Nine	1.4
Assumption Ten	2.0
Assumption Eleven	1.7
Assumption Twelve	1.7
Assumption Thirteen	1.5
Assumption Fourteen	1.4
Assumption Fifteen	1.7
Assumption Sixteen	1.4
Assumption Seventeen	2.1
Assumption Eighteen	1.6
Self-Pacing	1.6
Modular Scheduling	1.7
Independent Study	1.8
Individualized Instruction	1.6
Competency-Based Curricula	1.5
Protocooperation	1.7
Program Support System	1.7
Information and Evaluation Support System	1.8
Organizational Support System	1.7
Liberal Education Component	1.9
Methods and Curriculum Component	1.7
Child Development Component	1.6
Teaching Theory and Practice Component	1.5
Professional Sensitivity Training Component	1.8
Social and Cultural Foundations Component	1.7
Self-Directed Component	1.8
Specialization	1.9
Resident Year	1.7

3. A one-week workshop during the summer of 1970 (2.7).

4. Individual meetings with Protocooperative members (2.5).

Again the positive points on the scale were heavily used for most items. Those reacting to these offers of assistance from the Syracuse University Protocooperative were much interested in receiving the final report of this feasibility study and most favored a three-day work conference to be held in the spring of 1970. A smaller number endorsed a possible one-week workshop to be held during the summer. About half indicated a desire to have meetings at their own institutions with the opportunity to confer with members of the Syracuse University Protocooperative.

Table 121 summarizes the follow-up activities reported as of December 1, 1969, by a number of institutions which has been represented at the conference. The data were derived from replies to the last part of the questionnaire which asked respondents to list the steps they had undertaken as a result of their introduction to the Model.

Table 121

Follow-Up Activities by Respondents

Activity	Number
Faculty Review of Model	12
Program Planning	7
Initial Implementation Steps	3
None	18
Total	40

At this early point subsequent to the conference, it appeared that follow-up action was occurring on several campuses. If interest can be further stimulated by the outcome of the feasibility study and by a work conference in the spring, it appears likely that additional protocooperative groups might be formed. In this event, considerable benefit might occur from sharing ideas and resources among the various protocooperative groups as development and implementation of the Model is undertaken.

Exportability Summarized

The work reported in this chapter suggests that the exportability of the Syracuse Model is quite possible. . Positive interest has been generated in the Model, and it has been greeted by acceptance and praise. Efforts to date, while not too widespread or intensive, do provide a foundation for further dissemination efforts and--most importantly--possible cooperation among federations of protocooperative groups which might be formed. Further dissemination efforts will build on that foundation.

CHAPTER VII

THE METEP SIMULATION

The Simulation Task Force

This chapter describes the METEP Simulation which was designed at the Educational Policy Research Center at Syracuse, a division of the Syracuse University Research Corporation. The simulation was designed by Stuart A. Sandow with the cooperation of Charles Rathbone and the METEP staff, the EPRC staff, and the SURC Design Center.

History

The idea of a simulation had its beginning as two major proposals were developed in Syracuse, New York, at approximately the same time: one proposal under the direction of John B. Hough of the Center for the Study of Teaching called for the development of an innovative, long-range model for elementary teacher education; the other proposal under the direction of Thomas F. Green called for the establishment of an Educational Policy Research Center to systematically examine alternative futures for education in the United States and to develop methodologies to examine futures generated by others and the EPRC staff. Both of these proposals were funded and thus Phase I of the Model Elementary Teacher Education Project and the EPRC came to be at Syracuse.

Jack Hough and Tom Green spoke casually soon after their separate funding about the exciting possibilities of the EPRC examining the Model as a piece of real-world substance against some of the conjectured alternative futures and methodologies being developed at the EPRC. When the Center for the Study of Teaching received funding to do a feasibility study of the Syracuse Model, it became possible for the EPRC to carry out that suggestion. As a member of the Syracuse University Protocooperative, the EPRC accepted the task of designing a simulation exercise that would do several things; two in particular:

1. A simulation would allow the Syracuse University Protocooperative, the designers of the Model Elementary Teacher Education Program, to examine the program against some alternative futures that might impact on the Model's feasibility.

2. A simulation would, with minimal modifications, allow potential adopters of the Model at other institutions to examine the Syracuse Model in their settings to determine whether all or parts of the Model could feasibly be adopted.

Introduction

Since the EPRC was involved in suggesting alternative futures and designing methods to systematically examine those futures, the linkage with the Center for the Study of Teaching and the Protocooperative was looked on in several ways. Some futures which stipulated catastrophic possibilities for the educational system in the United States implied that if they occurred, the Model would be either irrelevant, untimely, or a waste of money if implemented. Further, it was thought that this examination might prove, by examining the Model against alternative futures, that the Model may have little or no value or impact on changing the nature of teacher education in the United States. The thing which excited persons at the Policy Center was that the Model Program builders were perfectly willing to let that be a real-world alternative outcome of their feasibility study. At the Policy Center, being well-funded and not responsible only to the Model builders, it was felt that this attitude was proof positive that the Model builders were seriously interested in a legitimate evaluation of their proposed teacher training program rather than just a selling vehicle. The job was undertaken with great relish.

The Model Program builders promised to supply substance about the meaning of the program as required by the designers. In turn, it was promised an exercise that would allow them to look at their substance against some futures.

The Development of the Concept

In the development of simulation exercises on the future, the Center made several observations. First, the common terms used in simulation constructions or among people involved in simulations are not wholly valid when applied to simulations of "the future." In fact, simulation of the future is a contradiction in terms, in that one cannot simulate what does not already exist. However, it was decided to stay with the term "simulation," to redefine some of the other terms to have them understood as they were meant, and to make those definition clear by presenting them here.

Though the simulations are not games, we use the term play. A "simulation" is an experience where all participants play against an environment. They can play against an environment of their choice--as in the case of the Model Elementary Teacher Education Program--or ours. The simulation player is pitted against the world, an environment. In a simulation of the future, either the environment wins and the player loses control or the player wins by learning to control the environment. A simulation of the future then is an examination of any one of a number of possible alternative states of affairs where the players exercise tools and examine their behavior in alternative futures.

A "game" is a play where opponents are pitted against each other. For example, one group (red) against another group (blue); or, people interested in capital development against people who are interested in social goals; or, good against bad; or one political party versus another. The game is over when one team wins and the other loses. The game, then, is team against team. Since there is no value in a winner-loser environment, we avoid the use of the term "game."

Thus the term "simulation exercise" is used rather than "simulation game," where "exercise" is understood to mean an activity which one does to develop a capacity or capability. One exercises his knowledge of a tool to try to control the environment. If a tool works in a particular environmental stress, the individual and his ability to manipulate that tool do win. If the tool fails in that environment, he can do one of several things:

1. Examine yet another tool against the same environment to see if control is possible.
2. Examine what it is in the environment that makes control impossible.
3. Find alternative ways to restructure the environment.

These tools are the methodologies being developed at the EPRC for the systematic evaluation of alternative futures.

While developing these tools and methodologies, the Center had tremendous difficulty operationalizing them for several reasons. First, it was found to be extremely difficult to break away from semantic problems. The closer a common understanding of the words was approached, the more difficult it became to apply the tool. Secondly, the substance attacked with these tools was often inadequate; that is, a poorly constructed real-world set or an inappropriate environment. This led to the observation that the closer one approximated reality, the more difficult and complex it became to role-play the authority figure who could operate with that reality. We needed simulated environments that were authentic but had no reality; to examine environments, simulated environments must portray authenticity, but they cannot be real because they attempt to simulate "the future." Further, this led to a realization that the concept of role-playing or role assignment, as generally understood, was inappropriate for the particular kinds of simulations intended.

For one thing, the major interest is in getting new tools and methodologies into the hands of real policy planners as quickly as possible. Those planners and policy makers have real authority and a knowledge of their own specific problems. Since the task involved building environments that planners would be considering adopting or allowing to exist in their world, it became, therefore, inappropriate to ask such decision makers to pretend they were anyone other than themselves. The greatest learning, it was felt, would take place if these planners played their own real-life, authority-based roles. This led to the definition of "role" as "real-world role." One played at being one's self in a false, future environment to examine how he might probably behave if that future environment came to pass. The idea challenge was met this way. An individual is any one of a number of people. The closer one knows one's role in life and knows who he is as an individual, the fewer and less disparate are his role choices. However, all persons play roles--the role of parent, the role of businessman, the role of planner--and all play them in several ways. An individual acts out one role with people giving him advice and information; he acts out another when he has made his decisions and wants them enacted. This specification of role led to a number of significant observations.

When one is asked to report what he acted like five years ago, he edits his past, he chooses those things to report from his knowledge of the past, and says, "This is how I behaved." This, then, is one man's view of the past. That view, as are all views of the past, or histories, is that select set of information that one man perceives to be relevant in depicting a picture of the past. It was felt that this could as easily be translated into the context of the future. Legitimately, one might say that any individual playing the role of himself, if he can look into the past and have the set of information that he chooses to be construed as a valid history of the past be accepted as valid, might pick and choose his behavior when asked to examine his future. At that point, future can have a "history," and that history must come from one man's role, one man's picture of himself in one possible conjectured future.

Further, it was found that if the purpose of the simulation was to be instruction in a tool or methodology and not in the historic or future historic environment, then the nature of the questions asked of the players became extremely important. The nature of their "role" became extremely important. The question asked was often the specification of role. For example, if one were asked what kind of a world one wanted to live in twenty years from now, the answer would be a reflector of that person's perceptions of himself and his desires in the future. However, if one were asked about the nature of the world he would want his children or his children's children to encounter on their twentieth birthday in the future, the response would be directed by the nature of the question to a set--a set of the world that he would have no part of: the world of the twenty-year old.

The response to the first question might be a world free of campus strife, such that retirement allows the participant to say that his years in the educational establishment have made a world where university strife no longer occurs. The roots to the ending of that strife may be absolute suppression of students so he can continue his research. However, attendance to the question of the world the twenty-year old might and should encounter compels the player to question the value of an environment that has no student revolt, no rebellion. He then might say, "I want my children to experience an educational system that allows them freedom to learn what they care to learn when they care to learn it." The goal may be the same. However, the values implied in the attainment of this goal may be quite different, depending on the way one asks the question.

This leads us to the next obvious value of simulations of the future being built. By specific attention to how players are asked to question themselves and by making them question themselves from their own real-world role position, one finds the ability to have them assess their values for themselves in the future and their values for others of the society in that same future. The opportunity to have people examine those things they will value in the future increases many times the power of the simulation.

That our simulation devices, our false environments, were not only ways of examining the future but were ways of examining the tools we were giving people to exercise was also learned. The simulation then became a catalyst of value not only to the player but also to the designer of the simulation and to the designer of the tool. This led to the discovery that the simulations were not instructional in that they taught what the future might be like or taught how to behave in that future environment, but they were an instructional catalyst to let people exercise a particular tool to see how they might behave in an environment. The learning was not about a future environment--the learning was how to control and exercise a tool to examine any future. That was a most important observation.

The simulation then was a process which allowed for the examination and refinement of the methodologies and tools being developed at the Center and at the same time a dissemination device for reaching as many planners as possible with our methodologies. This observation set the stage, which allowed the Center to begin satisfying both of its original charges:

1. To develop methodologies and tools for systematically examining alternative futures.

2. To disseminate those methodologies to the widest possible audience so as to help in long-range planning in education.

Thus, simulations, a misnomer when first examined, became the perfect catalytic device for satisfying the goals of the Center.

The initial product, then, was a conceptual framework which, when fully developed, should allow any set of policy planners, in fact any subgroup of society, to bring to the Center its substantive problems and to examine its substantive futures and problems against conjectured alternative futures, while at the same time exercising methodologies to determine whether those tools might help policy planners control their behavior in those futures.

Through the processes and observations described above came the moment where it was felt a simulation of the future could be constructed to display the conclusions thus derived. With this information as background, the development of a simulation exercise appropriate for the examination of the Model Elementary Teacher Education Program against some alternative futures was begun.

Description of the METEP Simulation

The Model designers were asked to supply the simulation designer with their perceptions--as clearly stated as possible--of what the Model was, how the Model would make people behave differently if it were successful as they perceived success, and what the operational strategies might be to implement this Model. It was felt to be inappropriate to simulate the development of the proposal and the development of the theoretical basis for the Model only. We felt potential adopters of the Model would be more interested in examining the operational strategies that they would have to replicate to implement the Model themselves.

The Model builders supplied the Center with the necessary data. In pre-play the designers learned a great deal about the problems of a simulation that had as one of its constraints the absence of anyone being available to clarify terms because the very learning the simulation was designed to promote was dependent upon the absolute understanding by all players of how Syracuse meant certain words. When the Model builders pre-played their own simulation while it was in design, the inadequacies of many of our instructions and of many of their interpretations of their own substance were discovered. This led to many interesting questions. Is it possible, for example, to refine a five-hundred fifty page document that took eight months to construct down to a point that it could be understood, interpreted, and analyzed in one, eight-hour day? Secondly, is the process of editing material an appropriate task for the Model builders themselves; that is, is it possible for the person who designs a complex theoretical scheme to reinterpret himself or attempt to reinterpret himself into an abstractive format?

The game designers attempted this second task themselves. The final product was drawn from the designers' interpretation rather than a restatement of the Model builders' ideas. This one generation removal from the Model and its builders allowed us to control clarity and in many cases to allow the Model builders to see values in their Model that they had overlooked by being too close to it. This interaction between the EPRC's examination of someone else's substance and the designers of that substance led to an increased clarity of the massive problem of communication between those who would reinterpret or interpret another's ideas and that other.

This kind of assessment of another group's work demands an aloofness, a rejection of all the natural ego-links inherent in a group putting their work on display for challenge. Were it not for the particularly unique qualities of the Protocooperative involved in the Model Program, the game would probably not be the honest simulation it became. What the simulation demonstrated when played by the Syracuse University Protocooperative was that the Model is open to change and adaptable to the future.

The Product

The simulation exercise is contained in a single package that can be mailed to any requesting teacher education institution or any other educational agency willing to host a meeting of a current, real-world educational community that cares to examine the possibilities of adopting the Syracuse Model Elementary Teacher Education Program. The exercise demands approximately eighteen players. The players are the decision makers from the teacher education institution, three, four or five public school systems in the area, and the representatives of the educational agencies and educational industries supplying that area with services. In short, the players are the real power within a potential protocooperative.

Process by Which Other Communities Can Examine the Syracuse Model

Any representative of an educational institution may request the simulation package from the Syracuse University Protocooperative. Upon receipt of that request, a letter is mailed to the person requesting the simulation stipulating the nature of the game and listing the titles of those people he must invite. When he notifies Syracuse that he has chosen a date, specified a location, and arranged for the 18 to 25 individuals to participate, the simulation is mailed to him. The game is relatively self-contained and needs very little interaction from the game director, a nonplayer.

The day of the simulation the players arrive and join with other players of the same institutional character; that is, all the university participants, all the school system participants, and all the educational others, being governmental educational agencies and educational industries. Each man receives a folder. Within the folder are the instructions and substance for the day's play. First, they are confronted with an introduction to the simulation exercise in which they are taking part and a very brief summary of what it is the

Syracuse Model attempts to do. From this base, the participants construct a profile of their current operating facilities. They also detail a set of group beliefs in the underlying assumptions of the Syracuse Model. The participants then have an opportunity to examine a large display, a symbolic representation of the Model itself, starting with its organizational unit, its basic beliefs, its basic assumptions, and the operational descriptors of those things the Model attempts to do with student teachers. This is followed by an outline of the implementation strategies Syracuse considers basic in real-time steps and which must be operationalized by any adopter.

After this examination of what Syracuse perceives to be operational strategies, the players are invited to act as "futures" consultants to Syracuse, back when Syracuse first planned its implementation strategy outline. To do this, they examine several possible scenarios of the future. They examine a collection of possible news events, and from this base they suggest alternative strategies for Syracuse if any of the news events were in fact to occur and affect the implementation of the Model. This is a low threat examination of the Model. Its purpose is to familiarize the players with all the relevant pieces of the Model and one possible set of strategies to implement it if they were to begin immediately and to practice operating a program that demands and allows continuous self-renewal.

At this point, the players examine the suggestions for alternative strategies proposed by other players in the room. They pick those ideas they believe to be the best suggestions made by others. These are shared with the group. Through this, they experience the second major feature of the Syracuse Model, protocooperation. Having chosen ideas of merit other than their own, they attend to them without concern for the institutional status of the person whose ideas they select. They have an opportunity to attend to those ideas from a range of persons with a range of professional and personal experiences and interests. They are, in effect, breaking the established set of institutional hierarchies that so often prevent worthy ideas from being circulated where policy decisions are finally made. This is the very essence or protocooperation.

However, final decisions are not made in play. Within the room there is no false assumption by the designers of the simulation that through some magic process the group will indeed be a group, all of whom are interested in becoming a protocooperative that very next morning. Whoever the set of players, every participant sees problems this group might have establishing a protocooperative relationship.

At the same time they all have ideas about how to begin a protocooperative if they could. The simulation at this point requests them to specify the problems they see in actually trying to implement the Model. In each case they must specify a solution to that problem and finally to state a positive starting point, a beginning idea through which the group might begin to consider adopting the Model. These are collated, copied, and returned to the players to begin a discussion of all the ideas available in the room, the problems seen, the solutions suggested, and the ideas for beginning a protocooperative.

While this process is going on, the players have an opportunity to read an informal, rambling history of the development of the Syracuse University Protocooperative. It is an honest and straightforward picture of how educational institutions operate when they are soliciting funds and implementing new ideas. When they have completed this history, which places Syracuse in perspective as an institution interested in itself and in the development of teachers, participants are given copies of the collected problems, solutions and ideas generated within their own group.

The final charge for the day is for players to commonly examine through discussion the facilities profile they generated earlier in the day and to compare it to that of Syracuse. The Syracuse University Protocooperative perceives itself to be at 100% readiness to implement the Model; therefore, its facilities profile is made available to these other institutions for comparison. Further, they examine the problems and solutions and starting ideas. This is where a protocooperative might begin. That is the most important piece of the simulation.

A unique feature of this simulation is that the players are afforded the opportunity after their discussion to call Syracuse and speak with the Model builders to instigate immediate positive consultative services at no charge, other than expenses, to any institution interested. The Model, it is believed, has increased value with each institution that adopts it. The greater the number of teachers that can be trained through this system, the greater impact of the Model on society.

The simulation exercise then is a unique examination of the Syracuse Model for training elementary school teachers. The Model is a unique programmatic fit of instructional confrontations for the student within an administrative unit that is truly protocooperative with all institutions taking equal responsibility for the final product: a teacher who changes and accepts change. The simulation demonstrates that the Model is self-renewing and that to be fully self-renewing, the participants must operate as a protocooperative. A second feature is the ability to contact immediately, with relevant questions, the designers of the Model themselves as part of the play.

CHAPTER VIII

FINAL SPECIFICATIONS

The Final Specifications Task Force

This chapter describes the task of the Final Specifications Task Force which was composed of:

Task Force Leader:
Thomas Samph (Syracuse University)

Task Force Staff:
Newton A. Allen (Syracuse City School District)
Augustin A. Root (Syracuse University)

The Final Specifications Task

Because the work of the feasibility study was accomplished through the use of a number of related but relatively independent task forces, there existed a very real danger that the final product might lack consistency and cohesiveness. While it is true that each task force worked within the framework of the Model and its assumptions, a number of persons worked on more than one of the task forces, and the support staff worked with all of the task forces, these precautions did not seem adequate to guarantee elimination of the difficulties a task force approach suggests. A very deliberate attempt to synthesize the products of the various task forces was required. Therefore, the work of the Final Specifications Task Force was to carefully review the outputs of the Model Refinement Task Force, the Implementation Strategies Task Force, the Specifications Task Force, and the Cost Analysis Task Force and to check for consistency between the refined Model, the recommended implementation strategies, personnel, material, and facility specifications, and the cost analysis data.

This synthesizing process resulted in modifications of the recommended implementation strategies, the specifications, and the cost data. Therefore, the implementation strategies described in Chapter III, the specifications detailed in Chapter IV, and the cost analysis data presented in Chapter V reflect the revisions generated by a process which was able to view and consider all of the outputs of the feasibility study as a whole.

The ease with which the Final Specifications Task Force was able to insure consistency and cohesiveness in the outputs from the feasibility study is a clear reflection of the commitment the other task forces had to their work and the soundness of the Model. In a very real sense, then, this report becomes a working document which is useful to the Syracuse University Protocooperative--and other protocooperatives--as they begin to develop the Model.

CHAPTER IX

SCENARIO

The Oracle at Delphi had certain powers that would be useful to those who study the feasibility of model programs. If we had the ability to view future happenings as could the Oracle, the correspondence that follows would fall within that vision. The situations within the following pages are, of course, presently ficticious and are the product of imagination.

Center for the Study
of Higher Education
227 Hale Hall
School of Education
University of Michigan
Ann Arbor, Michigan 48104
October 2, 1977

Dr. William Klaus
Program Director
Syracuse Protocooperative
Teacher Education Program
Syracuse University
Syracuse, New York 13210

Dear Dr. Klaus:

This letter follows our discussion last Tuesday of my request to you. As you know, I am writing a thesis on the history of the Model Teacher Education Program at Syracuse University entitled Education: The Decade of Change, 1966-1976. My interest in the project stems from the fact that I was a student at Syracuse for a few years before family circumstances forced me to radically change my career plans. I have already corresponded with Drs. Wilford A. Weber and John B. Hough, two extremely influential men in the early years of the Model Program. They provided me with valuable background information to fill in the gaping holes one perceives when reading a proposal or project report. Their information has helped to add depth and color to the rather incomplete story given by written reports. Certain personalities and problem situations now stand clear and are worthy of mention because of their contributions.

This brings us to our meeting of the other day and to this letter. You requested that I put in writing those items I wanted you to talk about. You have been program director since 1970. Would you please talk about the so-called "highs" and "lows" of the six years spent in that position. I realize that to detail each of the six years would be a massive undertaking (although probably that will be necessary at some point), and I won't ask you to do so. My purposes would be served if you could just go back and talk about whatever comes to mind--people, places, situations, whatever.

Your comments will constitute a most important part of my dissertation. While it is crucial that you be just as candid as possible, I will, of course, respect your wishes regarding direct quotations. I do hope that my work will play a somewhat major role in clarifying the Modeling Project and its contribution to higher education. Your comments will be major inputs into that work. I very much appreciate your kindness to me in this regard.

Sincerely,

Jack Petrillo

John Petrillo
Graduate Student in
Higher Education

SYRACUSE UNIVERSITY

ELEMENTARY EDUCATION | ROOM 438 | 150 MARSHALL STREET | SYRACUSE, NEW YORK 13210

December 1, 1977

Mr. John Petrillo
Center for the Study
of Higher Education
227 Hale Hall
University of Michigan
Ann Arbor, Michigan 48104

Dear Jack:

Many thanks for your letter of some months ago and your subsequent patience in awaiting my response. I simply have been unable to get enough free time to do justice to your request. I did not want to dash off a poorly written letter. The Thanksgiving vacation provided me some time, and I finally dictated some thoughts. As I listen to the tape, it occurs to me that there are many "people, places, situations, whatever" that I could have added; however, I believe the central "highs" and "lows" are there.

There were two initial problems that were massive and which almost doomed the Program in the early 1970's. I'm not sure if you know this or not--perhaps Professor Weber has mentioned the fact to you. The Office of Education led the project directors to believe that as a result of the Phase II feasibility studies, several of the eight model programs would be funded for development and implementation. Due to pressures from the White House to reduce spending, funding to all federal agencies was considerably reduced in the early seventies, and the Office of Education projects were no exception. OE was unable to follow through on their original Phase III plans. They postulated a series of alternative funding procedures and invited project directors to do the same. When the RFP for Phase III came out in the spring of 1971, Will Weber met with representatives of the University of Massachusetts, and the two institutions worked out a proposal which was submitted to the Office of Education. The essence of the proposal was that the Syracuse University Protocooperative, University of Massachusetts and their schools, and a third institution, uninvolved in either of the first two project phases, would form a regional confederation for teacher education. They would, if funded to do so, create a planning board to coordinate functions at the three institutions sharing whatever resources and ideas each had that could be used by the other. This planning board would be, in a sense, a macro-protocooperative having its membership shared by students, industries, and college and public school faculty from the three institutions. Regional labs would be a part of the group only if they were involved with the program at a member university--Syracuse and the Eastern Regional Institute for Education, for example. It must be emphasized that each institution was to develop and implement its own unique teacher education program. The purpose of the regional planning board was not to develop and implement one large superprogram for the three institutions; the board was only to identify common elements and needs across the three programs and facilitate whatever interinstitution cooperation was thought feasible. The notion was to share ideas and resources as it makes sense to do so.

In addition to this planning board, it was proposed that the regional federation be funded to develop a Materials Production and Resource Center having as its function the production and service of all hardware and software not commerically available to the project. Notably included in the MPRC would be a common film production and computer facility.

The Office of Education did request a proposal from the institutions involved and the University of Vermont joined Massachusetts and the Syracuse Protocooperative in the writing of the proposal. As you know, Jack, the proposal was funded on a year-to-year reapplication basis over a period of two years starting in 1971. The first year was spent in preliminary design of the confederation and, most importantly, in in-house dissemination. The second year was spent in meetings with the faculty of the three campuses and the exploration of both common and diverse goals. Both years were spent in the production of materials based on plans made during the second year and also on completing construction of the computer facility. While the Syracuse Protocooperative had tried to operationalize many of the ideas contained in its initial proposal, the confederation was a great stimulus toward excellence just because of the financial and human resources it provided. A Ford Foundation grant to the Protocooperative in June of 1970 was used to produce films for the Junior year modules--the film that was produced gave a large initial boost to the MPRC; they had a starting point to refine, modify, or entirely delete.

I am a bit selfish when I feel that the Protocooperative alone should have been funded to establish our program. The confederation, however, has proven to be the next best thing. Naturally enough, it was not without its problems. The time constraints built into the proposal writing sessions of Phase I and Phase II never really allowed those doing the writing to really get all faculty (both university and public school) committed to the new techniques of the Model Program. Add to this the differences inherent in the regional confederation, and you have a confusing situation for a faculty. Those faculty members who stayed and adjusted to the Model Program weren't about to do the things Massachusetts did, for instance. It took a period of time to convince them they didn't have to. Confederation meant only the sharing of common elements, not the dilution of one's program to match another program in a different place with different kids with different needs. On the whole, the faculty reacted in a superlative fashion. The modifications instituted by the Ad Hoc Curriculum and Methods Committee were beautiful! In one sense, the Model caused cohesion where there had been none.

An offshoot of the program that I hadn't expected but which I heartily endorse is the exchange program between schools. This first started with the students spending their Resident year at one of the other campuses. This increased the attractiveness and broadness of the specialization possibilities.

Incidentally, you may know the joint program we have going with Norfolk State College. They are one of the smaller, developing institutions that accepted major portions of the Syracuse Model. Since Norfolk does not grant graduate degrees, it sends its Resident students to Syracuse where they can spend a fifth year of study--the Resident year--if they wish. Because these students are at Syracuse, they could conceivably go to either of the other confederation members as well.

The faculty also saw certain advantages in the program and is now exchanging faculty. Every year a certain number of teaching faculty spend two semesters at one of the other institutions. Needless to say, the exchange of ideas that occurs because of this is remarkable. And fairly recently even the public schools have begun a similar effort with whole families exchanging houses for a year. I'd recommend your speaking to some of the visiting faculty sometime. They feel most positive about this.

I guess I am getting somewhat off the track because most of what I've spoken about has been the confederation.

One thing I do want to talk to you about is the students' feelings about the Model Program. Last year's graduating class was the first to officially complete all sequences of the program. There would be dire predictions that many of the graduates would not be hired for "they were too new for the little red·schoolhouse." (That quote is from a Time Magezine article about the first graduating class.) Their popularity exceeded our expectations! The placement center was flooded with personnel requests from various school districts all over the country. I know personally some of the hiring directors, and they were in some cases shocked at the way they were interviewed in the sessions. Teachers having definite ideas about their skills and capabilities who just won't go someplace that isn't going to allow them to exercise those skills and capabilities are a different experience for hiring directors. That class was really something. I guess they had a bit of the reformer's blood in them knowing they were the first graduates from a program that had the eyes of the nation upon it. As I remember it, a good portion of them elected to specialize in the areas of reading and urban education because of Syracuse's strength in this area. We also had our share of students who specialized as generalists--one gal, on her own spare time, took every methods course taught at the University and even took several of these courses at the University of Vermont in her Resident year. On the whole, I'd say most of the students really liked the modular arrangement of program experiences. One fellow was able to collapse three years' work into a year and a half. The students were not always as enthusiastic toward the program as they were the day they graduated. It was a hard adjustment for some to make in their Junior year--the work load, the independence of the instruction, and the responsibility one must personally exercise for their own education. Once they saw that we weren't really kidding, though, they really took hold of themselves. It did take time for them to come to trust the program and us. I am particularly reminded of the group of faculty and students that voluntarily spent a summer working for the College of Liberal Arts to help them develop some of the procedures we used in the program. I remember that one of those kids was hired by the College to continue work on the redesign of their courses. I hope I'm not being too immodest when I say the liberal arts people are adapting many of the techniques we've had in use for several years. I find it taxing to imagine students doing better than that first graduating class but they will, I'm sure.

One real problem we had last year was the near withdrawal of the city school system from the Protocooperative. The background to the problem was simply this. The state-aid formulae for per pupil aid were based upon need. Need was calculated on how far below national norms the so-called "disadvantaged student" was. (Incidentally, you may not realize the impact of the Nixon Administration on this point. In 1972, because of political pressure following the withdrawal of the last American soldier from Viet Nam, the decision was made and voted on to channel all federal monies through the state governments. The States could determine the manner in which money was to be apportioned. New

York's definition was based on the "need" formula.) Now, the city district had a fairly unique situation. As part of the Protocooperative, they had instituted resident and microteaching centers in 1970 and teaching centers in 1971. A substantial number of teachers were touched by the by-product inservice training that occurred in these centers. These teachers, plus the large number of college students active in the schools, had a substantial impact on the achievement levels of the "disadvantaged" youngsters. Their achievement levels improved greatly in 1973 and 1974; so much, in fact, that the state decreed many of them to be "advantaged" (assuming that is the opposite of disadvantaged) and drastically reduced the state aid to the district. It did not pay the district in financial terms to remain a leader in urban education. Pressure from teachers' unions who faced a salary reduction for the first time since World War II caused the Board of Education to consider withdrawing from the Protocooperative. The crisis caused more "protocooperation" than I had ever seen in this city. First of all, the Syracuse University Protocooperative, students included, met with the Board of Education at least twice to explain the nature of the program and its impact on the city schools. Students at the University College of Liberal Arts as well as students in the teaching program canvassed all the teachers and parents in the city to further explain the program to them. The kids thought that if the teachers and parents saw that what had been accomplished for the children was largely a result of shared experiences among the Protocooperative members, they might withdraw their demands. The students were amazed to find high school teachers who were still unaware of what the city was doing with the Protocooperative. Their sales talks must have worked, for the teachers' association agreed to no raises as long as their salaries were not cut. This the Board could handle, and they subsequently voted to remain within the Protocooperative. I'll not forget the frustration caused by the experience for one student in particular. She had driven some of her pupils to Albany to attend a meeting in the Education Department concerning the aid formulae. The kids had been asked to speak and did so with rare candidness. The comment of one of the committee members to the teacher afterwards was, "Yes, it was nice, but those kids sure are hard to understand." Little wonder we have problems in education.

Since I spoke indirectly of the Protocooperative working together in the city situation, let me give you a somewhat better example. The Syracuse University Protocooperative now has a Teaching Research Center located in the public schools. The Center is part of the Niskayuna Staff Development Center but is directed by a group of teachers and University people from the Protocooperative. Each school within the Protocooperative sponsors a fellowship and sends a representative to the TRC for one year. While there, these representatives learn what teaching research is all about and how it can benefit the school districts. Two districts, Canastota and Jamesville-Dewitt, have already organized a small center of their own staffed on a part-time basis by returning TRC fellows. The people at Niskayuna have done some beautiful things in grouping kids and teachers according to a slight mismatch in conceptual level. They have such an advantage in that a student population is able to be studied so much more easily because the center is located in the public schools, For the first time in my life I've seen university professors requesting to be part of a public school research effort.

Another area of concern to me is the locus of control at the Materials Production and Resource Center. Part of the initial organization of the computer facility dictated that the three institutions reach agreement on the format for evaluating the progress of students through the various learning activity modules. This was not a real problem for the confederation. What has occurred now, however, is that the Office of Education wishes to use our facility to do the data analysis for a confederation of western colleges. Their feeling is that their initial subsidy entitles them to this service. The confederation's board approved their use of the protocol film materials because they could increase service by adding a few new staff members. The computer usage question cannot be solved quite so easily, however. Presently we are operating with an immediate access capability--anyone from any of the terminals located in the public schools and universities of the confederation has immediate access to the computer at any time, day or night. The addition of another confederation would increase turn-around time immensely, particularly in times of peak load. An alternative solution is to install a new computer, but the Government isn't willing to meet that expense and the confederation cannot. We could, of course, just say "no" to the Government request; but in light on contracts and funded programs, that isn't particularly wise either. My support system coordinator just resigned because of the problem, and frankly, this is a sticky problem. Control of that Service Center has been and continues to be a real problem.

Well, Jack, I've hit several of the "highs" and "lows" you spoke about. It occurs to me that you may not know how we got into full operation here. The Ford Grant which enabled us to produce our films required for the modules was a fortunate occurrence for us. We were able to institute most of the components to what I would say was 60% to 80% of their potential. Evaluation support was a knotty problem as we couldn't use the computer as we had wished. The Computer Center here at Syracuse was helpful, but even with their help we just about reached first base on what we wished to do with program evaluation and support.

The Confederation was a great help to us, needless to say. Their computer was operational in the fall of 1974, and I would say that last year's graduating class was the first class to reap the full benefits of the program. Admittedly, we had to go about it in a somewhat haphazzard way, fitting chunks of the program together where it was feasible and letting other parts ride until we acquired the necessary capability.

It is amazing to me, in the short time we've been operating, how many national ties we've developed. For example, to mention a few off the top of my head--the ERIC Clearinghouse on Teacher Education has agreed to be responsible for disseminating the protocol materials produced in the confederation's Materials Production and Resource Center; Tennessee State University has sent us one of their faculty to work at the MPRC in exchange for free access to all software produced there; Fredonia State College was brought into the Protocooperative, bringing to our group a setting with tremendous technological capabilities through Fredonia's Teacher Education Research Center; a variety of professional organizations have sponsored confederation members at conferences to talk about what we have going here; and we ourselves sponsored three regional dissemination conferences throughout the country last year. Each was well received.

Well, I've come to the end of two tapes and am just about talked out. Let me hear from you about this letter, and I'd be more than happy to discuss the program with you at a later date. Also, feel free to quote me as you wish. In a way, I feel I've just told you about a large part of my life. Guess I have.

Most sincerely,

Bill

William Klaus
Program Director

WK/jg

CHAPTER X

SUMMARY

This chapter, the last of the report, reviews the process and products of the feasibility study, draws a number of conclusions regarding the products and by-products of the study, and recommends several future steps which seem appropriate.

The Process and the Products

The feasibility study was carried out by eight task forces; the responsibility of each was as follows:

1. Refinement of the Model. All aspects of the Phase I Model were reviewed by a wide range of representatives from the member institutions of the Protocooperative and revised as they saw fit. Revisions did not greatly alter the basic structure of the Model but did refine it through additions, deletions, and modifications. Refinements have been described in Chapter II.

2. Development of implementation strategies. Through use of a systems approach, a number of alternative long-range strategies for development and operation of the Model Program were described. Alternatives most attractive to the Protocooperative were selected; the selected strategies and the residual alternatives have been reported in Chapter III.

3. Specification of program requirements. Specifications of the personnel, facility, and material requirements of the Model Program have been detailed in Chapter IV. These specifications formed the basis for costing.

4. Analysis of costs. A major emphasis of the study was the estimating of costs for developing and operating the program given the selected implementation strategies and the program specifications. Cost data have been reported in Chapter V.

5. Examination of exportability. The attractiveness of the Model as perceived by a wide range of teacher educators was studied because the program is transportable only to the extent that people find it better than present programs.

Data indicating positive reactions to the Model have been reported in Chapter VI.

6. Construction of the simulation. A simulation was designed and built which allows potential adopters and adapters of the Model to confront the kinds of problems they would face during implementation of the program. The simulation has been described in Chapter VII, and copies are available from the Protocooperative.

7. Determination of final specifications. A final review of the Model, the implementation strategies, the program requirements, and the cost data was made. Modifications were made so as to get the best possible "fit" of all of these elements.

8. Preparation of final report. This report is the product of this last task. The intent has been to keep it brief and useful to those who would contemplate adoption or adaptation of the Model. Therefore, an emphasis is put on the procedures of the study as well as its products. An underlying belief is that those who would consider implementation of the Model should be concerned with its feasibility within the situational context of their institutions and protocooperatives.

Therefore, the products of this study as reported in this document are: a refined Model, plans for implementation, estimates of the financial, personnel, facility, and material requirements of the program, conclusions regarding its attractiveness, and a simulation. These outputs have been reasonably well documented in the earlier sections of this report. Attention will now be given to the consideration of some by-products.

Some Conclusions

In light of the work of the feasibility study, it seems reasonable to make some observations about aspects directly or indirectly related to that work. While these conclusions are not based on "hard" data, they are founded on the experiences of those closest to the feasibility study, and we believe such observations to be of value to those who would study the Model and its feasibility.

1. The refined Model seems reasonable, acceptable, and attractive to the members of the Protocooperative and to the vast majority of teacher educators sampled through the "exportability" aspects of the study. In addition, the Model has been well received by those teacher educators around the nation who have examined the program and its

implications. The Model's capacity for self-correction and its openness to change are among the most attractive features of the Model.

2. Many aspects of the Model Program are applicable not only to the education of elementary school teachers·but also secondary school teachers; expansion of the Model Program to include secondary teacher education would not be difficult and benefits--not the least of which would be financial savings--would be substantial.

3. In general, the larger the number of students in the program, the less the per student cost, and the greater the flexibility of an individual student's instructional program. This is not to imply that the Model Program is not feasible in a small college setting but only to suggest that one needs to recognize that operational parameters are to some extent dependent upon the number of students in the program.

4. Successful implementation of the Model Program will require careful attention to organizational and managerial detail, program planning, and staff development; the Model Program must continue to use a systems approach and solid managerial techniques. We believe such sweeping changes as implied by the Model are facilitated by a commitment to a common task--the implementation of the Model--and a common goal--the education of very able elementary school teachers and, eventually, the improvement of the education of children.

5. The Model requires a protocooperative approach. A single institution simply cannot provide the resources and settings necessary for successful development and operation of the program. The feasibility study has demonstrated that protocooperation is a viable notion and, indeed, is a most necessary requirement. Protocooperation is the crucial organizational ingredient in the Model.

6. Specifications of the program requirements do not call for personnel, facilities, or materials which are unavailable or unobtainable. The types of personnel which are called for by the program do exist or can be trained to perform the specified tasks. The types of facilities which are required by the program do exist or can be built and equipped as required. The types of materials which are necessary are available or can be produced. We presently have the skills and abilities to meet the needs of the Model Program. Program requirement specifications are realistic; and in this sense, therefore, the program is feasible.

7. While at first glance the program costs might seem to be quite high, examination of operational costs as separate from developmental costs seems to indicate that program costs would be fairly reasonable--about $4,000 per student in a program graduating 100 students per year. Of course, this figure does not include savings which might be effected through cooperative efforts outside of the Protocooperative. Nor does it take into account the far-reaching influence of the program and the dissemination potentials possible.

8. Great thought must go into considerations of collaborative arrangements among teacher education institutions and among teacher education consortia so as to effect savings and expand benefits where possible. We envision the growth of a large number of protocooperatives consisting of large and small colleges, each with its unique organizational mix; from these would emerge a network of such protocooperatives. The savings possible from sharing the costs of basic instructional material production and of computer facilities and services alone would, for example, be quite sizable.

9. Those who would contemplate adoption or adaptation of the Model Program should study the feasibility of the program within their own situational context. While the products of this report will be useful in that process, potential adopters must attend to factors unique to their institutions and their students. We believe that the first task in such a study would involve a self-analysis of their level of commitment to the Model as they would operationalize it and a determination of their willingness to change in the ways the Model prescribes.

10. We believe the Model Program to be--in every sense--feasible; we take the position that the program requires only time, resources, and resolve--and the most crucial of these may be resolve--to make it operational. Further, we believe that graduates of the program will be better equipped to facilitate the growth of the elementary school children they will teach.

Recommendations

The products and by-products of Phases I and II of the Teacher Education Project have had and will continue to have a major impact on the improvement of teacher education through systematic program development. We believe that Phase III--implementation--will have an even greater impact, not only on the education of teachers but also on the education of children. At this writing, the form which

POOR ORIGINAL COPY - BEST
AVAILABLE AT TIME FILMED

POOR ORIGINAL COPY - BEST
AVAILABLE AT

Phase III will take is not clear. We would like to take this opportunity to make some observations in this regard.

We believe that the teacher education programs of each of the institutions who have been involved in Phases I and/or II, as well as the programs of many institutions who have been and will be influenced by the work of the Phase I and II institutions, will be improved because of the Teacher Education Project. But despite the very considerable achievements to date and potentials possible, we feel that the Office of Education will need to continue to support these visionary activities if we are to have rapid sweeping change. Without such support the full potential of the project cannot be realized--evolution would take place where revolution is necessary.

In short, we believe that the potential of the Teacher Education Project is dependent upon implementation efforts which capitalize on what has been achieved, which maximize the utilization of present knowledge and creative productivity, which will foster a norm of systematic teacher education program development and operation, and which will result in greatly improving the education of teachers and of children. This, we believe, requires the allocation of resources appropriate to the enormity of the developmental task.

The various forms which Phase III might take are quite numerous. For the purposes of this discussion, let us assume that there will be a Phase III supported by the Office of Education. With this as a given, we shall propose the alternative which appears most attractive to us in light of our experiences.

We propose that each of several institutions be funded to implement one of the teacher education models developed during Phases I and II. The emphasis in each case would be on the development of a prototype demonstration program and dissemination capabilities. This procedure has the advantage of capitalizing directly on the Phase I and II work and makes it possible to utilize experienced personnel. Two possible disadvantages are that the prototype programs might be too closely tied to earlier efforts and the Phase I and II institutions would have an advantage in the competition for funding. The first of these would not be a serious problem as the models would no doubt undergo extensive revision during development; the second is not necessarily a serious problem if pains are taken to ensure meaningful dissemination and an "open system."

In addition, funded institutions should be required to cooperate in several ways. There should be a great deal of cooperation with regard to materials production, computer services, and dissemination.

Clearly, one of the most expensive items in these programs will be the preparation of instructional materials--protocol materials. Film and videotape sequences will be especially costly. This is true because all materials will need to be of:

1. High technical quality (so that the materials can be made available to other teacher training institutions).

2. High production quality (so that the message is well constructed).

3. High dissemination value (each message should be content identified and cross referenced, and the effect of the total message should be tested against the intended audience).

If materials of the quality and quantity implied by the programs were developed on an individual institution basis, production would be a most expensive activity. The total cost and effort would be sizable especially when considering that teaching activities involving students would be expected to start within a year or two and that the typical commercially produced classroom film often takes over a year to produce

There are at least three options for the production of these instructional materials:

1. Each institution produces its own materials. The chief advantage is local control, and thus the materials tend to reflect local situations and needs. The major disadvantages are the problems associated with hiring qualified noneducation personnel on a short-term basis; time spent working with such production personnel; costs involved in locating subjects and cooperating schools; and the need to supply specialized spaces such as studios, editing rooms, and similar production facilities on a short-term basis.

2. Institutions subcontract to commercial producers. The chief advantage is that some of the major commercial education material producers have the personnel who could be used to do a big job in a short time; they have definitions of quality, especially technical quality; the distribution of materials to nonfunded institutions could be accomplished through existing systems; and production problems are kept to a minimum as far as the teacher education institution is concerned. The major disadvantages are that most major educational publishing houses have production personnel whose criteria may have little relevance to conveying instructional messages; costs are apt to be extremely high for consumer institutions; and educators tend to lose control so that materials may be less situationally relevant.

3. Institutions form a consortium of instructional material producers. The chief advantages are that university-based producers and crew members are apt to be more sensitive to what is needed and more experimental in how to produce

materials that do the job educationally; greatly lower costs would be expected; dissemination functions would be more realistic; a training ground for students and staff who want to produce high-quality instructional materials is provided; greater opportunities for local control and situational relevance are provided; procedures for the distribution of materials through university film libraries, for example, are already established; and there is better access to system planning personnel. The major disadvantages are possibilities for some loss of educator control; the problems involved with the hiring of some personnel on a short-term basis; the costs associated with the leasing of some additional equipment to produce quantity materials in the relatively short time period.

We are biased toward the last alternative for several reasons. First, the consortium notion minimizes the problem of educators communicating with production personnel in terms of designing effective protocol materials. Second, it takes advantage of the sizable cost benefits gained from cooperation in the production of protocol materials which are common to programs; both time and money are thus saved. Third, and perhaps the most important in the long run, this same group could be charged with the responsibility of preparing effective dissemination messages as to what the model programs are and how they are operating.

For example, at the end of the second year of implementation, the institutions would have a majority of their initial, albeit untested, materials ready for program operation. Operational testing would indicate those materials which needed to be redeveloped and refined. As the initial responsibilities of instructional material production decrease, the production unit would begin documenting how the model programs were operating so that, by the end of the fourth year of implementation, a series of documentaries would be available to supplement the instructional materials; these materials would show how the programs were developed and operating. In short, as the production units begin to phase out of the production of instructional materials, they could begin to produce staff development and dissemination materials for second and third generation teacher education programs.

The instructional materials production consortium notion has already been given something of a test by the Special Medic Institute concept. SMI, a consortium composed of instructional media specials from Michigan State University, Oregon College of Education, the University of Southern California, and Syracuse University, might be just the type of organization to involve in such a production effort. Coincidentally, three of the four member institutions have been Phase I and Phase II institutions. SMI's expertise in conducting media institutes and technical competence in producing instructional materials, coupled with the teacher education content specialists available on member institution campuses, would prove a powerful group in the production of protocol materials. In addition, we see the ERIC-AACTE Clearinghouse on Teacher Education as an important organization for the dissemination efforts.

The same sorts of cooperative efforts as have been described as appropriate for the production of instructional materials would be possible with regard to computer facilities and services. Large-scale cooperation would mean expanded services and financial savings.

Systematic thinking about the common elements of the various programs might suggest additional ways in which savings might be accomplished through cooperative efforts. For example, examination of the linkages possible between other Office of Education supported programs, such as Teacher Corps and the Triple T projects, should be undertaken, and the possibilities of expanding the Teacher Education Project into the area of secondary education should be explored.

Postscript

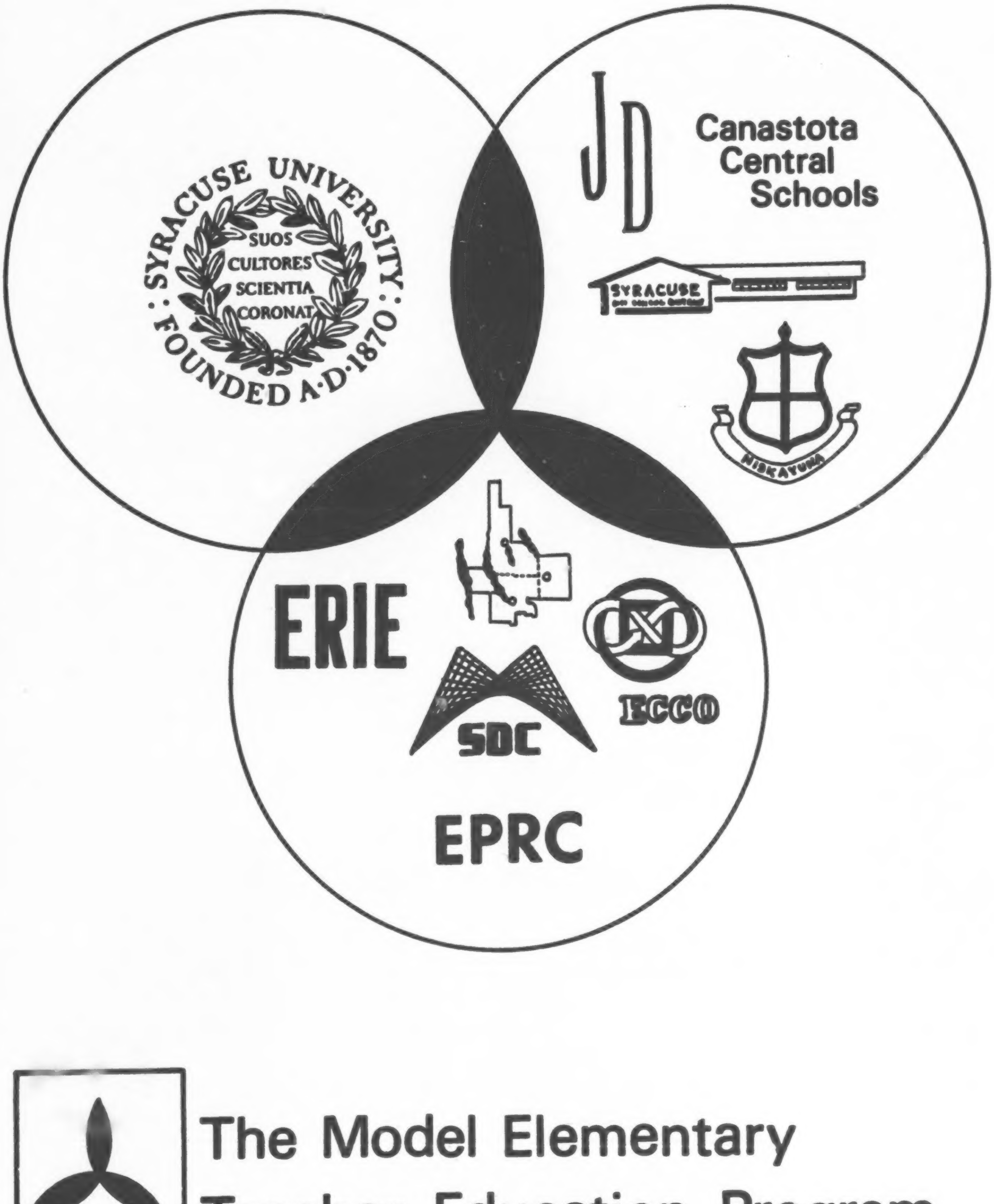
The major purpose of the feasibility study was to determine whether the "blue-skied" elementary teacher education program blueprints of Phase I were capable of being implemented. The central questions were: "Could the dreams teacher educators incorporated into the Phase I models be actualized and, if so, at what cost?"

We feel that our dreams and those of our colleagues at other teacher education institutions can and must have an opportunity to grow into reality. We owe it to our children to provide them with the finest teachers possible. Can the cost be too high?

APPENDIXES

Syracuse University

School of Education


SYRACUSE UNIVERSITY
SUOS CULTORES SCIENTIA CORONAT
FOUNDED A·D·1870
JD
Canastota Central Schools
SYRACUSE
NISKAYUNA
ERIE
ECCO
SDC
EPRC

The Model Elementary Teacher Education Program

322/323

THE MODEL ELEMENTARY TEACHER EDUCATION PROGRAM

The Need

Innovation, change, and speculation about the future are characteristic of contemporary modes of thought. Change is accepted as a fact of life, and we anticipate its tempo will steadily increase both in the culture as a whole and in public education in particular. We have no way of knowing what the elementary school will be like in the year 2000, or indeed if it will still exist. We do feel certain, however, that elementary education will be different. We strongly believe that the character and qulaity of future changes can be positively influenced by elementary school teachers who have been educated to respond in relevant ways to the challenges of change. The Model Elementary Teacher Education Program was developed to prepare teachers to openly confront change, to react to it responsibly, to guide it constructively for the welfare of the individual and society, and to initiate change in the institutions and communities in which they will work.

The Syracuse University Model: An Overview

A Model Elementary Teacher Education Program has been designed at Syracuse University and is currently the focus of a feasibility study. The effort which went into its design and the promise of the feasibility study suggest that this Model may serve to guide the improvement of elementary teacher preparation at Syracuse and other institutions. The Model may best be summarized by listing some of its special characteristics:

1. The Model is based upon a number of explicitly stated assumptions about a changing society and its education needs.
2. Education of teachers is viewed as the joint responsibility of institutional members of a protocooperative group which includes the college or university, school districts, other educational agencies, and business and industry. Protocooperation has already received intensive testing as public schools and other agencies have worked with Syracuse University to plan and conduct the current feasibility study.
3. The program for each student preparing for teaching extends over the liberal arts foundation, the professional preparation, and a post-baccalaureate year in a resident center.

4. Students move at their own pace through a sequence of eighty-three instructional modules in areas such as Curriculum and Methods, Child Development, Professional Sensitivity Training, Teaching Theory and Practice, Social and Cultural Foundations, and Self-Directed Studies.

5. Varied practical field experiences are gained in elementary school throughout the entire program.

6. Intensive inservice education will benefit public school and university staffs as they cooperate in the program.

The History of the Model

Many of the ideas and assumptions incorporated in the Model began to be generated early in 1966. The faculty and administration of the School of Education were taking steps at that time to restructure their curricula, and the announcement of the Model Elementary Teacher Education Program (METEP) gave impetus to this movement. Sponsored by the United States Office of Education, the METEP is intended to stimulate lasting institutional change in teacher education institutions by bringing together the best in teacher education with the hope of educating a teacher better able to meet the educational challenges of the future.

Collectively, over one hundred people from universities throughout the country worked on the preparation of the Phase I Model from March 1 to October 31, 1968. The major portion of writing was done by fourteen authors at Syracuse University under the leadership of Jack Hough, Project Director. After submission of the final report in late October, a critique conference was held at the University; here experts representing all aspects of teacher education throughout the United States gathered for a two-day conference at which the Model was scrutinized.

In May of 1969 Syracuse University was funded to begin Phase II of the METEP, a study of the feasibility of the Model. Under the directorship of Will Weber, Phase II has been concerned with the personnel, facility, material, and financial requirements of the Model. In the process of conducting the feasibility study, some of the Model's assumptions have been tested. Most notably, the concept of "protocooperation" has been successfully operationalized in that representatives from the University, public schools, educational governmental agencies, educational industry, and undergraduate and graduate students have been working on the Phase II study.

As this is written, the Phase II segment of the METEP is nearing completion. Phase III, if carried out as originally envisioned, will involve the implementation of a small number of model programs over a five-year period.

Basic Assumptions of the Model

We assume the program to be an open system, a point of departure for the future action which will result in eventual development and operation of a teacher education program. Indeed, even the following assumptions are open to change:

1. We assume that social change will continue and will require the continuous revision of teacher education programs.
2. Since specific social changes cannot be accurately predicted, we assume a major need in all education is to prepare people to cope with change.
3. We assume that as social and educational conditions warrant, there will have to be a redefining of teacher attitudes and competencies.
4. Although future educational institutions may differ radically from those at present, we assume a growing need for teachers who are humane, skillful, capable of an increasing degree of decision-making authority, and who are not merely technical experts.
5. Since education takes place in both formal and informal institutions the goals of which may or may not be in agreement, we assume that a model program should prepare teachers to work with groups in both settings.
6. Because we cannot "produce" a teacher with complete competence to teach in educational agencies whose forms we cannot predict with accuracy, we assume that a major task of the program is to provide a variety of experiences which will enhance the teacher's capacity for adaptive self-education.
7. Since educational goals change radically from one point in time to another, we assume that an adequate model of teacher preparation must be modifiable as conditions warrant.
8. We assume that an intent-action-feedback model is essential to the program; that is, there should be a continual examination of program inputs, processes, and outputs; it is this which will keep the program updated.

9. We assume a program and its professional staff must recognize and respond to individual differences of students if it is to facilitate the development of self-directed and self-renewing teachers.

10. Since empirical evidence has not decisively favored any one view regarding the most successful form of teacher education, the Model was created to include elements from many views in order to obtain an atmosphere of open dialogue in which hypotheses generated from many views can be tested.

11. Although we assume that a self-directed program and self-renewing teachers are goals that will be shared by adopters of this Model Program, we do not assume that a particular goal demands a particular means, holding that all means must be evaluated in human terms.

12. We assume that curriculum and instructional development and operation in teacher preparation programs should receive program support from systems which aid in development of materials, programs, and organizational structures and which have built-in evaluation and monitoring controls for the students and the program.

13. We assume that the preparation of teachers should be increasingly a joint effort involving a variety of professional and lay groups.

14. We assume the Model Program will operate most effectively with the interaction of colleges and universities, public schools, educational governmental agencies, and educational industries concerned with the education of teachers; that is, as defined by the term "protocooperation."

15. We assume that as this program goes into effect all participants, including students and professional staff, will assist jointly in planning and evaluation and have available adequate feedback procedures consistent with the program and personal goals and needs.

16. We assume that a major factor in the success of the program is the adequate orientation and preparation of all program personnel through appropriate staff development procedures.

17. We assume that all students will be admitted to the program on the basis of an expectation of student success; but since all students who wish to become

teachers may not have the capabilities and dispositions needed, we further assume that adequate provisions will be made to ensure the most appropriate program for each student.

18. We assume that certain aspects of this Model Program require experiences and competencies not typically found in teacher education faculties; therefore, to assure a faculty which possesses a flexibility and openness required of the program, we assume selective recruitment and continuous professional development.

The Five-Year Program for Students

The Sequence. The Model provides for three years of professional study and practice based on a foundation of liberal studies. The three years of professional study and practice are designed as a series of largely self-paced experiences each of which is a successive approximation of the terminal goal of the Model Program: a skilled and self-directed teacher who can meet the demands of teaching, who has developed the disposition and skills for continued adaption to a changing world, and who will have substantial impact upon the role of the elementary school teacher. Throughout the program the Model calls for supporting services of the Self-Directed Component including provisions for counseling and personal exploration of goals and values in a professional setting.

Included in the Freshman and Sophomore years are two year-long courses in the humanities and social sciences. The professional experiences comprise opportunities to tutor on a one-to-one basis; this is intended to help the student explore teaching as a profession.

In the Junior Pre-Professional year the student becomes involved in instructional modules in Curriculum and Methods, Child Development, Teaching Theory and Practice, Professional Sensitivity Training, Social and Cultural Foundations, and Self-Directed Studies. The Liberal Education Component during this period concentrates on the natural sciences. The amount of time the student devotes to these activities will vary with his needs, abilities, and aptitudes. In a tutorial relationship with elementary pupils, the student has additional field experiences in a protocooperative school. The emphasis during the Junior year is global regarding the process of teaching in contrast to the Senior year when it becomes more specifically oriented to teaching.

The experiences of the Senior Professional year can be started upon completion of the Junior Pre-Professional modules, whether or not the student has achieved Senior status in the University. The student is immersed in full-time professional study, including continuation of work in instructional modules of the six professional components, as well as a series of increasingly more complex teaching experiences in the Teaching Centers located in the protocooperative schools and staffed by qualified clinical teachers and professors. During this year the student makes a decision regarding a teaching specialization and explores this area primarily in the Self-Directed Component. At the conclusion of the Senior year, the student has earned his bachelor's degree and qualified for his teaching certificate.

During the post-baccalaureate Resident Teacher year, the student engages in year-long partnership intern teaching in a Resident Center; during the summers preceding and following the public school year, he pursues his specialization program. Supervision of the resident teacher is performed by a team of clinical professors who also conduct seminars based on the resident teaching problems. The student graduates at the end of this program with a master's degree in his area of specialization.

An Example of an Instructional Module. An instructional module is a set of defined learning activities of varying lengths, intended to bring about certain operational objectives in students and is characterized by pre-test and post-test performance measures. A typical example of an instructional module is as follows:

Child Development-3: Skills of Making Closed Observations

I. Prerequisites: Completion of CD-2.

II. Placement of Module: Junior, pre-professional year.

III. Estimated Time: Student time: 4 hours.
University faculty time: 1 hour.
Clinical professor and clinical teacher time: 0 hours.

IV. Operational Objectives: The purpose of this module is to provide the student with the introductory skills of making reliable closed observations of children's behaviors. The general objectives of this module should prepare the student to do the following:

1. Record reliably whether:
    a. A specified event occurred within specified time spans for an individual or a group being observed.
    b. Which of a selected taxonomy of behaviors were exhibited by the individual or group being observed (in both time sampling and point-time sampling format).

2. Summarize on a table or graph the comparative frequencies of behaviors for different individuals or for the same individual on different categories.

6

If these broad objectives are achieved, the student should, for example, be able to do the following:

1. Record (to the criterion of a pre-established reliability level) the frequency of specified behaviors for a filmed behavioral sequence.

2. Construct graphs or tables representing frequencies for individuals, sexes, and age levels on supplied data for a three-category taxonomy of behaviors.

V. Description of Instructional Activities:

1. Pre-test to determine whether the student would:

   a. Have additional instruction prior to taking this module.
   b. Study all or selected portions of this module.
   c. Proceed to the post-test or following module.

2. A faculty member will discuss with a small group of students the rationale and format for making closed observations, discuss the importance of making reliable observations, and describe procedures for summarizing data.

3. Students will be given packets of instructions directing them into certain tasks associated with this module. They will be directed to view films of children in informal classroom activity and to practice recording at superimposed time signals whether or not they observe given discrete behaviors--for example, whether a child "moves entire body to a new location or position." They will also practice doing time-sampling and then point-time sampling in which they record for a supplied taxonomy of behaviors the ones that were observed--for example, whether a child was involved in motor interaction, verbal interaction, or no observable interaction with people or materials. Students will compare their own observational records with those of other students and/or standards provided with some of the films. The instructional packet will also include directions and materials for graphing some of the observations.

4. Post-test to determine if the student should:

   a. Repeat certain parts of this module or engage in other remedial work.
   b. Proceed on to some other module.

5. If the post-test indicates a need for the student to repeat certain aspects of the module or engage in some other remedial work, a remedial conference would be held with a professional staff member and remedial experiences would be designed.

Support System. The Model includes three support systems. The Program Support System is responsible for the design, development, and testing of instructional modules, and the redesign, redevelopment, and retesting of such modules that do not function up to specifications when put into operation.

The Information and Evaluation Support System provides the Program Support System with the information necessary to perform its design functions, gathers information about student progress, feeds this back to the student and the instructional staff, and evaluates the effectiveness of the program.

The Organizational Support System focuses on the internal operating structure of the program itself and its relationship with the larger organizations with which the program would be associated and on which it would be dependent, including the total university, the total school system, and the educational industries and/or regional laboratories that would design and develop the educational materials necessary for the program's operation.

The Role of the Protocooperative. Protocooperation is the word used to describe the institutional organizational pattern called for by the Model. The term protocooperation is borrowed from the field of ecology where it is used to describe a specific type of interdependence between organisms. Protocooperation differs from mutualism in at least one important sense. Mutualism implies that the relationship is obligatory while protocooperation does not.

The successful development and operation of this Model Program requires the creation of a condition of protocooperation involving a university or college, public schools, educational industries, and educational governmental agencies such as regional laboratories and Title III centers. In this situation each member draws strength and benefits from its relationship with others as peers in a common task. Each is responsible for a unique, direct, and essential contribution to the education of elementary school teachers.

Copies of the Syracuse University Model Program--Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary Teachers--are available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 (Order No. FS 5.258:58016). Microfiche copies are available from the Educational Resources Information Center (ERIC), the National Cash Register Company, 4936 Fairmont Avenue, Bethesda, Maryland 20014

(Order Nos. 026 301 and 026 302). Further details can be obtained from Dr. Wilford A. Weber, Center for the Study of Teaching, School of Education, Syracuse University, Syracuse, New York 13210.

CONFERENCE PROGRAM

9:00 Registration

9:30 Welcoming Remarks

David R. Krathwohl
Dean of the School of Education
Syracuse University

9:40 Introductory Remarks

"The Need for Innovative Programs in Teacher Education"
Thomas E. Clayton
Director of Teacher Preparation
Syracuse University

"The History and Assumptions of the Syracuse Model Program"
Wilford A. Weber
Model Elementary Teacher Education Project Director
Syracuse University

10:30 Coffee Break

10:45 Panel Discussion: I

"The Nature and Importance of Protocooperation"
Donald F. Rielle
Superintendent of Schools
Canastota Central Schools

Hanford A. Salmon
Assistant Superintendent for Personnel
Syracuse City School District

"A Description of the Model Program"
Wilford A. Weber

"Unique Features of the Model Program"
Robert F. Bickel
Eastern Regional Institute for Education

12:00 Luncheon

1:15 Panel Discussion: II

"The Information and Evaluation Support System"
Berj Harootunian
Syracuse University

"The Program and Organizational Support System"
William P. Kent
Head of Washington Staff
Education Systems Department
System Development Corporation

2:00 Small Group Discussions

The formulation of important questions to be asked of the Protocooperative

2:30 Coffee Break

2:45 Question and Answer Session

The Protocooperative responds to the questions posed by the small groups

3:45 Distribution of Information Packets

Berj Harootunian

4:00 Closing Remarks

QUESTIONNAIRE ON THE INVITATIONAL CONFERENCE
SYRACUSE MODEL ELEMENTARY TEACHER EDUCATION PROGRAM

To be consistent with the assumptions of the Syracuse Model Elementary Teacher Education Program, we will need feedback from you. Below we have listed a number of items which will take a few minutes for you to answer. Please record your response at the appropriate place on the scale for each item by circling the number that best represents your opinion.

1. Did the information in the brochure sent to you provide an adequate introduction to Syracuse Model Elementary Teacher Education Program?

   Adequate 1 2 3 4 5 Inadequate

2. Did today's sessions further clarify the information contained in the brochure?

   Further Clarified 1 2 3 4 5 Did not Clarify

3. For each of the following topics please indicate whether today's talks contributed to your understanding of the Syracuse Model Elementary Teacher Education Program?

   a. The Need for Innovative Programs in Teacher Education

   Added to Understanding 1 2 3 4 5 Did not add to Understanding

   b. The History and Assumptions of the Syracuse Model

   Added to Understanding 1 2 3 4 5 Did not add to Understanding

   c. The Nature of Protocooperation

   Added to Understanding 1 2 3 4 5 Did not add to Understanding

   d. A Description of the Model Program

   Added to Understanding 1 2 3 4 5 Did not add to Understanding

   e. Unique Features of the Model Program

   Added to Understanding 1 2 3 4 5 Did not add to Understanding

f. The Information and Evaluation Support System

Added to Understanding	1 2 3 4 5	Did not add to Understanding

g. The Program and Organizational Support Systems

Added to Understanding	1 2 3 4 5	Did not add to Understanding

h. How to form a protocooperative

Added to Understanding	1 2 3 4 5	Did not add to Understanding

i. The planning and conducting of a feasibility study

Added to Understanding	1 2 3 4 5	Did not add to Understanding

4. Did you feel your small group session was profitable in clarifying Syracuse Model Elementary Teacher Education Program?

Profitable	1 2 3 4 5	Unprofitable

5. Were the questions that you raised adequately answered today?

Adequately	1 2 3 4 5	Inadequately

6. Was the three-week notification of this conference sufficient?

Sufficient Notice	1 2 3 4 5	Insufficient Notice

7. Did the scheduling of this meeting inconvenience you?

Little Inconvenience	1 2 3 4 5	Much Inconvenience

8. Was the location of this conference convenient?

Convenient	1 2 3 4 5	Inconvenient

9. List below any questions you still have about Syracuse Model Elementary Teacher Education Program.______________________

____
(Please use back of sheet for additional questions.)

10. Your position: ____Dean ____Dept. Head ____Faculty
____School Administrator ____Other (Please specify)
____

FOLLOW-UP QUESTIONNAIRE ON ASPECTS OF THE MODEL
SYRACUSE MODEL ELEMENTARY TEACHER EDUCATION PROGRAM

We have listed below a number of items about which we need to get your reactions. Please record your response at the appropriate place either by a check mark or circling the number on the scale that best represents your opinion. We would be grateful if you would return this questionnaire by December 1, 1969, so that we may include your responses in our Final Report.

1. Please check which of the following have contributed to your understanding of the Model Program and form the basis of your responses to the items on the questionnaire.

____The Invitational Conference on November fifth

____The summary of the Syracuse Model Elementary Teacher Education Program (Xerox copies of pgs. 1-9)

____The summary of the Feasibility Proposal of the Syracuse Model Elementary Teacher Education Program (Xerox copies of pgs. 1-11)

____The Model Elementary Teacher Education Program brochure sent to you before the conference (nine pages)

____Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary Teachers (550-page Phase I final report)

____Other (please specify)

____

____

____

2. From the list below, please rank the items in the order in which they were most helpful to you.

____The Invitational Conference on November fifth

____The summary of the Syracuse Model Elementary Teacher Education Program (Xerox copies of pgs. 1-9)

____The summary of the Feasibility Proposal of the Syracuse Model Elementary Teacher Education Program (Xerox copies of pgs. 1-11)

____The Model Elementary Teacher Education brochure sent to you before the conference (nine pages)

____Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary Teachers (550-page Phase I final report)

____Other (please specify)

____

____

____

3. Based upon the material you have received thus far, how adequate a description of the Syracuse Model have you had:

1 2 3 4 5
adequate — inadequate

4. How do you personally feel about each of the following aspects of the Syracuse Model Elementary Teacher Education Program:

4.1 Assumptions of the Model:

4.1.1 We assume that social change will continue and will require the continuous revision of teacher education programs.

1 2 3 4 5
positive — negative

4.1.2 Since specific social changes cannot be accurately predicted, we assume a major need in all education is to prepare people to cope with change.

1 2 3 4 5
positive — negative

4.1.3 We assume that as social and educational conditions warrant, there will have to be a redefining of teacher attitudes and competencies.

1 2 3 4 5
positive negative

4.1.4 Although future educational institutions may differ radically from those at present, we assume a growing need for teachers who are humane, skillful, capable of an increasing degree of decision-making authority, and who are not merely technical experts.

1 2 3 4 5
positive negative

4.1.5 Since education takes place in both formal and informal institutions the goals of which may or may not be in agreement, we assume that a model program should prepare teachers to work with groups in both settings.

1 2 3 4 5
positive negative

4.1.6 Because we cannot "produce" a teacher with complete competence to teach in educational agencies whose forms we cannot predict with accuracy, we assume that a major task of the program is to provide a variety of experiences which will enhance the teacher's capacity for adaptive self-education.

1 2 3 4 5
positive negative

4.1.7 Since educational goals change radically from one point in time to another, we assume that an adequate model of teacher preparation must be modifiable as conditions warrant.

1 2 3 4 5
positive negative

4.1.8 We assume that an intent-action-feedback model is essential to the program; that is, there should be a continual examination of program inputs, processes, and outputs; it is this which will keep the program updated.

1 2 3 4 5
positive negative

4.1.9 We assume a program and its professional staff must recognize and respond to individual differences of students if it is to facilitate the development of self-directed and self-renewing teachers.

1 2 3 4 5

positive negative

4.1.10 Since empirical evidence has not decisively favored any one view regarding the most successful form of teacher education, the Model was created to include elements from many views in order to obtain an atmosphere of open dialogue in which hypotheses generated from many views can be tested.

1 2 3 4 5

positive negative

4.1.11 Although we assume that a self-directed program and self-renewing teachers are goals that will be shared by adopters of this Model Program, we do not assume that a particular goal demands a particular means, holding that all means must be evaluated in human terms.

1 2 3 4 5

positive negative

4.1.12 We assume that curriculum and instructional development and operation in teacher preparation programs should receive program support from systems which aid in development of materials, programs, and organizational structures and which have built-in evaluation and monitoring controls for the students and the program.

1 2 3 4 5

positive negative

4.1.13 We assume that the preparation of teachers should be increasingly a joint effort involving a variety of professional and lay groups.

1 2 3 4 5

positive negative

4.1.14 We assume the Model Program will operate most effectively with the interaction of colleges and universities, public schools, educational governmental agencies, and educational industries concerned with the education of teachers; that is, as defined by the term "protocooperation."

1 2 3 4 5
positive negative

4.1.15 We assume that as this program goes into effect all participants, including students and professional staff, will assist jointly in planning and evaluation and have available adequate feedback procedures consistent with the program and personal goals and needs.

1 2 3 4 5
positive negative

4.1.16 We assume that a major factor in the success of the program is the adequate orientation and preparation of all program personnel through appropriate staff development procedures.

1 2 3 4 5
positive negative

4.1.17 We assume that all students will be admitted to the program on the basis of an expectation of student success; but since all students who wish to become teachers may not have the capabilities and dispositions needed, we further assume that adequate provisions will be made to ensure the most appropriate program for each student.

1 2 3 4 5
positive negative

4.1.18 We assume that certain aspects of this Model Program require experiences and competencies not typically found in teacher education faculties; therefore, to assure a faculty which possesses a flexibility and openness required of the program, we assume selective recruitment and continuous professional development.

1 2 3 4 5
positive negative

4.2 Self-Pacing: The student moving through the program experiences at a rate that is comfortable to his learning style

1 2 3 4 5
positive negative

4.3 Modular Scheduling: The organization of program experiences that allows the student greater flexibility in his self-pacing

1 2 3 4 5
positive negative

4.4 Independent Study: The student working on his own, according to his own direction and pursuing his own interests

1 2 3 4 5
positive negative

4.5 Individualized Instruction: The provision of learning materials and experiences that are fitted to the individual needs of students

1 2 3 4 5
positive negative

4.6 Competence-Based Curriculum: The provision of learning experiences that allow the student to behaviorally demonstrate his knowledge and skill

1 2 3 4 5
positive negative

4.7 Protocooperation: The involvement of a variety of segments of the educational community--universities, public schools, the educational governmental agencies, the educational industries--on an equal basis in the preparation of teachers

1 2 3 4 5
positive negative

4.8 Program Support System: The mechanism through which the instructional modules are designed, constructed, tested, evaluated, modified, and retested, and through which personnel, materials, and facilities are provided to the program

1 2 3 4 5
positive negative

4.9 Information and Evaluation Support System: The mechanism through which the progress of students and program effectiveness is monitored by data analysis and measurement techniques

1 2 3 4 5
positive negative

4.10 Organizational Support System: The structure through which organizational matters of the protocooperative are dealt with, such as communications external and internal to the program

1 2 3 4 5
positive negative

4.11 Liberal Education Component: The experiences of the freshman, sophomore, and junior years which integrate the humanities, social and natural sciences by means of panel teaching

1 2 3 4 5
positive negative

4.12 Methods and Curriculum Component: The experiences of the junior and senior years which deal with the subject matter and alternative ways of selecting and presenting the subject matter

1 2 3 4 5
positive negative

4.13 Child Development Component: The experiences of the junior and senior years which deal with an examination and study of the child and his growth and development as a human being

1 2 3 4 5
positive negative

4.14 Teaching Theory and Practice Component: The experiences of the junior and senior years which deal with alternative approaches to and skills necessary for the teaching act

1 2 3 4 5
positive negative

4.15 Professional Sensitivity Training Component: The experiences of the junior and senior years which deal with increasing the awareness of the student as a teacher and as a member of the profession

1 2 3 4 5
positive negative

4.16 Social and Cultural Foundations Component: The experiences of the junior, senior and resident years which deal with the social and cultural determinants of behavior in school, the language of education, analysis of the logic and language of education, and the social problems of a school in society

1 2 3 4 5
positive negative

4.17 Self-Directed Component: The experiences that infuse the entire program that allow for close student-counselor relationships and independent student behavior, and creates a way in which the students can manipulate the program to better realize their own goals

1 2 3 4 5
positive negative

4.18 Specialization: The process in which a student may pursue an area of interest in depth which may not be one of the traditional specialty areas of teaching

1 2 3 4 5
positive negative

4.19 Resident Year: The optional fifth year of the program in which a student shares full-time responsibility for a classroom with a teaching partner as a fully certified, recognized teacher

1 2 3 4 5
positive negative

5. Please indicate how each of the following would facilitate your own plans in elementary teacher education:

5.1 A three-day work conference in the spring of 1970

1 2 3 4 5
facilitate not facilitate

5.2 A copy of the Syracuse Final Report on the feasibility study (Phase II)

1 2 3 4 5
facilitate not facilitate

5.3 A one-week workshop on the Syracuse Model during the summer of 1970

1 2 3 4 5
facilitate not facilitate

5.4 Individual meetings at your school with members of the Central New York Protocooperative

1 2 3 4 5
facilitate not facilitate

6. List below any steps or activities you have undertaken as a result of your introduction to the Syracuse Model Elementary Teacher Education Program.

Again, thank you for your cooperation. Please return in the enclosed envelope by December 1, 1969.

☆ U.S. GOVERNMENT PRINTING OFFICE : O—1970—816—886